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[1] Kolmer found the basal metabolism increased up to nine times by swimming in cold lake water. Zuntz, Loewy, Müller, and Caspari: Hohenklima u. Bergwanderungen, Berlin, 1906, p. 263.

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(4)	26/9	12.0	—	—	—	—	—	—	—	—	0·817	6·07	10,700	15·8
(5)	28/9	12.45– 1.4	12·4	26·3	20·0	15·0	—	—	—	—	0·853	4·02	7,080	—
(6)	28/9	2.30– 2.45	—	—	—	—	—	—	—	—	0·887	6·13	10,800	—
(7)	7/10	11.30	8·2	26·3	23·2	19·0	—	45·6	98·0	150	0·917	8·09	14,250	—
(8)	7/10	12.0	8·2	26·3	23·2	19·0	—	45·6	96·5	120	0·881	6·91	12,150	—

Remarks on Method of Taking the Tests.

L. H.—(1) Walked slowly on sand for 15 min., about 40 yards in 45 sec., shoes on; breathed into bag for 2 min.
(2) Same as previous expt., but shoes off, paddling; breathed into bag for 2 min.
(3) Walked slowly on sand for 30 min., shoes on; breathed into bag suspended from shoulders for 4 min.
(4) Same as previous expt., but shoes off, paddling.
(5) Walked 60 yards up and down the beach, at 1 yard per sec., for 15 min., then breathed into bag for 4 min, coat and waistcoat off.
(6) Paddling knee-deep at same speed as previous expt. before lunch; breathed into bag for 4 min.
(7) Walked 1 mile in 17 min. along the sand with sweater on under coat, perspired profusely, uncomfortable; breathed into bag for 2 min.
(8) Walked 1 mile in 16 min. along sand, in bathing costume; breathed into bag for 2 min.

WALKING AND PADDLING METABOLISM.

(Continued.)

Initials.		Date in 1921.	Time.	Kata cooling power in m'calories per sq. cm. per sec.		Temp. °C.				Temp. °F. axillary.	Pulse.	Resp. quotient.	Body heat production in m'calories per sq. cm. per sec.	Calories per diem.	Temp. °C. sea water.
				Dry.	Wet.	Dry.	Wet.	Check.	Black fur.						
A. C. ..	(1)	3/10	11.43	15·0	30·3	24·0	17·0	—	30·0	—	—	0·919	8·40	12,400	—
	(2)	3/10	12.30	15·0	30·3	24·0	17·0	—	30·0	—	—	0·832	10·80	15,850	15·8
	(3)	4/10	10.58	12·5	27·0	18·2	17·0	—	20·1	97·0	—	0·880	13·10	19,200	—
	(4)	4/10	11.30	12·5	27·0	18·2	17·0	—	20·1	—	—	0·883	12·40	18,300	—
	(5)	5/10	11.30	15·5	37·0	17·0	16·0	—	18·0	96·5	150	1·000	8·80	13,050	—
	(6)	5/10	12·0	15·5	37·0	17·0	16·0	—	18·0	94·5	132	0·797	10·9	16,050	16·1

Remarks on Method of Taking the Tests.

A. C.—Height: 170·0 cm. Weight: 60·5 kg. (1) Walked 1 mile in 17 min. along sand in ordinary clothes; breathed for 2½ min. into bag; felt uncomfortable at end.
(2) Paddled 1 mile in 18 min., in bathing dress; breathed into bag 2½ min. whilst doing so; comfortable all the way.
(3) Walked along shore 1600 yards heavy sand in 14 min. 10 sec., usual clothing and woollen sweater on; breathed into bag for 2 min.; uncomfortable at half way.
(4) Walked as above, wearing bathing dress, 1600 yards in 14 min. 10 sec.; breathed into bag for 2 min.; comfortable all the way.
(5) Walked 1 mile along shore in 16 min., usual clothes and a sweater; breathed for 3 min.; felt uncomfortable before half way.
(6) Paddling in bathing costume, with shoes on, 1 mile in 15 min., carrying clothes in a bundle; some trouble with breathing apparatus; felt comfortable all the way.

C. P. ..	(1)	27/9	11.15–11.30	14·0	—	16·7	14·0	—	—	—	—	0·738	4·85	6,630	—
	(2)	27/9	11.45–12.0	14·0	—	16·7	14·0	—	—	—	—	0·859	4·96	6,770	—
	(3)	29/9	11.40–11.55	13·0	24·7	15·8	14·5	29·1	—	97·0	—	0·726	7·18	9,800	15·8
	(4)	29/9	10.40–10.55	13·0	24·7	15·8	14·5	29·6	—	97·0	—	0·760	6·40	8,740	—

Remarks on Method of Taking the Tests.

C. P.—(1) Walking slowly up and down shore, 1 yard per sec., for 15 min.; breathed into bag suspended from shoulders for 4 min. whilst walking.
(2) Expt. same for time and distance, but paddling instead of walking.
(3) Paddling; breathed into bag suspended from shoulders whilst walking for 4 min.
(4) Expt. same as previous one, but walking instead of paddling.

BATHING METABOLISM.

M. H. ..	(1)	20/9	12.0 –12.3	—	—	—	—	—	—	—	120	1·000	9·69	13,750	16·0
	(2)	21/9	11.36–11.41·5	14·5	21·7	20·2	16·8	—	—	—	—	1·000	10·40	14,750	15·8
	(3)	22/9	12.12–12.21	—	—	—	—	—	—	—	—	1·000	9·88	14,000	—
	(4)	23/9	11.2 –11.18½	—	—	—	—	—	—	—	—	0·952	9·83	13,900	—
Average..		—	—	—	—	—	—	—	—	—	—	0·988	9·55	14,100	15·9
N. H. ..	(1)	20/9	11.0 –11.2·5	—	—	—	—	—	—	—	—	1·000	15·3	15,250	16·0
	(2)	21/9	12.29–12.31½	14·5	21·7	20·2	16·8	—	—	—	—	1·000	10·8	10,800	15·8
	(3)	22/9	11.37–11.40½	9·9	—	22·0	17·0	—	—	—	—	0·950	11·6	11,550	—
Average..		—	—	12·2	21·7	21·1	16·9	—	—	—	—	0·983	12·5	12,533	15·9
A. C. ..	(1)	21/9	12.2 –12.12½	14·5	21·7	20·2	16·8	—	—	—	—	1·000	8·57	12,600	15·8
	(2)	22/9	12.35–12.44½	9·9	—	22·0	17·0	—	—	—	—	0·901	9·31	13,600	—
	(3)	29/9	12.30–12.35	13·0	24·7	15·8	14·5	—	—	—	—	0·937	10·10	14,900	15·8
	(4)	4/10	10.58–11.6½	12·5	27·0	18·2	17·0	—	—	—	—	1·000	5·58	8,200	15·8
	(5)	5/10	—	15·5	37·0	17·0	16·0	—	—	—	—	1·000	6·10	8,960	16·1
Average..		—	—	13·0	27·6	18·6	16·2	—	—	—	—	0·969	7·93	11,652	15·8
C. P.		23/9	12.42–12.46	—	—	—	—	—	—	—	—	1·000	7·08	9,660	—
W.		30/9	7.40–7.44	20·2	39·5	14·6	12·5	—	—	—	—	1·000	5·54	8,750	—

Remarks on Method of Taking the Tests.

M. H.—*Before lunch.* (1) Had swam for 2 min.; breathed into bag for 1 min. on the shore.
(2) Had swam for 5 min.; breathed into bag for ½ min. on the shore.
(3) Swimming for 8½ min.; breathed into bag for ½ min. on the shore.
(4) Swimming for 16 min.; breathed into bag ½ min. on the shore.

N. H.—*Before lunch.* Girl aged 13. Height: 146·5 cm. Weight: 31·4 kg. (1) Bathed for 2 min.; breathed into bag ½ min. on the shore.
(2) Bathed for 2 min.; breathed into bag ½ min. on the shore.
(3) Bathed for 3 min.; breathed into bag ½ min. on the shore.

A. C.—*Before lunch.* (1) Bathed for 10 min., then breathed into bag for ½ min. on the shore.
(2) Bathed for 9 min., then breathed into bag for ½ min. on the shore.
(3) Swimming with big bag for 5 min., during which time air was collected.
(4) Bathed for 5 min., then breathed for 3½ min. whilst in water.
(5) Bathed for short time, no swimming, lying in water breathed into bag for 2 min.

C. P.—*Before lunch.* Bathed for 4 min.; air collected while lying in water during the last ½ min.

W.—*Before breakfast.* Bathed for 2 min., then did muscular exercises, breathing into bag at same time for 2 min.

CONCLUSION.

These experiments give sufficient indication of what occurs during a holiday at the sea-side. Paddling and bathing are heavy but pleasant tasks for the average holiday-maker, the results being increase of appetite and pleasant sensation. The lighter clothes worn and the open-air conditions also add to these effects. Work carried out under cool conditions is pleasant, whilst under warm and close conditions it is a task.

Lettsomian Lectures

ON

AMŒBIC LIVER ABSCESS:

ITS PATHOLOGY, PREVENTION, AND CURE.

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LECTURE III.*—THE PREVENTION OF AMŒBIC LIVER ABSCESS AND THE RECENT REDUCTION IN ITS PREVALENCE AND MORTALITY.

I HAVE so far dealt with developed amœbic liver abscesses, and although time has not permitted me to go into clinical details, it will be sufficiently obvious that any simple method of preventing such a serious complication of amœbic colitis will be far more beneficial than even the improved methods of dealing with the established condition already described. I now proceed to the researches which have enabled me to establish such a method on a scientific basis and to reduce remarkably the number and mortality of these serious cases as compared with earlier days, when indeed the method I advocate was used empirically to a considerable extent in India, although when I commenced my investigations in Calcutta it had fallen very much out of favour—largely I believe, owing to the numerous dysentery cases of the bacillary type, seen during the South African war, in which ipecacuanha was found to be of no use, so that numerous army medical officers on their return to India increasingly relied on the then popular saline treatment of dysentery in place of the Brazilian root. In my first lecture I dealt with the history of the relationship of liver abscess to dysentery, but I reserved until now the consideration of the former use of ipecacuanha in dysentery and hepatitis in India, where its value has so long been known.

USE OF IPECACUANHA IN DYSENTERY AND HEPATITIS IN INDIA.

Ipecacuanha, or Brazilian root, was first brought to Europe for use in dysentery in 1658, and was apparently given in India as early as 1660; according to Norman Chevers, Abercrombie used the drug in large doses in Madras as early as 1807, although a little later Annesley advised only 1 to 3 gr. doses, but mentions that some doctors gave 30 to 60 gr., and Twining gave 6 gr. with blue pill, both reporting good results. Curiously enough, Annesley in "hepatic dysentery" preferred antimony, while in 1871 W. C. Maclean records using tartar emetic in hepatitis. Docker is usually credited with having reintroduced large doses of ipecacuanha in dysentery in 1859 among British troops at Mauritius with brilliant results; but I find that Edmund Parkes advocated 30 to 60 gr. of the drug in this disease as early as 1846, although in hepatitis he advised bleeding, mercury pushed to salivation point, and purges. Of still greater interest from my present point of view is the use of ipecacuanha in hepatitis, which, as far as I have been able to ascertain, was introduced by Maclean, although in a paper he published in the *Indian Annals of Medical Science* of 1854 on the Abuse of Mercury in Hepatic Disease, declaiming justly against the then widely prevalent production of salivation with this metal, he does not mention ipecacuanha, but advises strict diet, cutting off all alcohol, and saline purges for hepatitis. However, in his article on Suppurative Inflammation of the Liver, in Reynolds's "System of Medicine" of 1871,[18] he states that for years past in his Netley lectures on Tropical Diseases, published later in 1886, he had advised 20 to 25 gr. doses of ipecacuanha in acute hepatitis with the object of preventing suppuration taking place, and he remarks regarding the use of the drug in dysentery: "How this remedy, always deserving the name of a specific, came to be superseded by calomel and opium in the treatment of dysentery in the East is one of the most curious questions in the history of tropical medicine." This observation might justly be applied to the replacement to a great degree of ipecacuanha by salines in dysentery, and by ammonium chloride in hepatitis, at the beginning of the present century, although Chevers in 1886 had fully endorsed Maclean's opinion of the value of this old drug in both diseases; but it is now clear that such violent fluctuations in treatment were inevitable in India as long as amœbic dysentery remained unrecognised and one protagionist was dealing mainly with this form and another with the bacillary type. Although Maclean's empirical use of ipecacuanha in hepatitis fell into undeserved neglect two decades ago, it was not altogether laid aside; Sir Patrick Manson, in particular, from the first issue of his book in 1898 consistently advised large doses of the drug when hepatitis is associated with dysentery, and has resisted the milder treatment with salines and ammonium chloride, which he advises for "tropical liver" unassociated with dysentery, while long before he recognised amœbic dysentery as a distinct form of disease he recommended ipecacuanha in dysentery cases invalided home from the tropics. The not infrequent cases of hepatitis going on to liver abscess without symptoms or history of dysentery, however, would be liable to escape the drug even under such a system of treatment, and in order to get the full benefit of its specific action a simple method of early clinical recognition of the more chronic forms of the disease was required, which I found in the blood changes now to be described.

Value of the Blood Changes in Early Recognition of Amœbic Hepatitis.

Having thus cleared the ground, I will continue the description of the researches leading to the differentiation of what I have termed the presuppurative stage of amœbic hepatitis and to its cure by ipecacuanha, with resulting prevention of abscess formation and the necessity for surgical interference. Coincidently with my studies of the ætiology and treatment of tropical liver abscess I was working at the differentiation of tropical fevers by blood changes; in my spare time for a number of years I kept shorthand notes and four-hourly temperature charts of between two and three thousand cases, mainly at the European hospital, including 1350 consecutive fever admissions in which I examined the blood within two years. When I began this work in 1901 it may safely be said that about 90 per cent. of the fever cases were diagnosed and treated as malarial, although I found only one-seventh of them were really so; kala-azar and seven-day dengue-like fever had not at that time been differentiated, and among the fevers then nearly always confused with malaria were the more chronic amœbic hepatitis cases, which were always treated with quinine, with or without ammonium chloride, until the clinical signs of an insidiously forming liver abscess obtruded themselves on the attention of the physician. It was, of course, known that liver abscess produced a leucocytosis; but with no pathologist and two overworked resident medical officers in sole charge of some 200 medical and surgical beds, blood counts could rarely be made. A succession of brother medical officers gladly gave me every opportunity for my investigations; I still have my slips with the notes and blood counts and tables with all the cases classified in series, and it is of great interest to note that none of the hepatitis cases, including those going on to abscess formation while in hospital, during nearly four years had been treated with ipecacuanha, and the same was true of the Medical College Hospital; thus it is clear that at that time in Calcutta that specific drug had been superseded by ammonium chloride in hepatitis, just as Maclean 30 years before complained it had been replaced in dysentery by calomel and opium.

* Delivered on Feb. 20th, 1922. Lectures I. and II. appeared in THE LANCET of March 11th and 25th, respectively.

In my earlier fever work I was particularly on the look out for liver abscess cases for trying my aspiration and quinine injection method of treatment; consequently I made blood counts in cases of hepatitis, and in 1905[17] published my first paper on the blood changes in hepatitis and liver abscess. The first five cases I then dealt with were admitted for hepatitis not going on to suppuration, and only two of them showed the very slight increases of leucocytes of 10,250 and 11,500 respectively. On the other hand, in 11 cases going on to abscess formation, leucocytosis varying from 12,750 to 38,500 was present, and the exceptional case showed 8625 with only 2,860,000 red corpuscles, or a relative increase of the white corpuscles; the significance of this increase I overlooked at the time, but subsequently recognised that it may be diagnostic of inflammatory changes in the liver. I have since reported a case of liver abscess pointing through the abdominal wall, with great relief of the original tension, in which leucocytosis was absent, but here the diagnosis was not in doubt. The two cases with over 35,000 leucocytes were very acute and fatal multiple ones, such very high counts being of bad prognostic import in amœbic hepatitis and in amœbic dysentery. On the contrary, in two of the most chronic and insidious cases leucocytosis was absent on admission for fever of obscure nature, but developed later while on ammonium chloride, which I have never seen do the slightest good in hepatitis. This paper was also noteworthy for the record of my first case in which acute hepatitis with leucocytosis was recovered from without abscess formation, under large doses of ipecacuanha given on my advice, based on the following simple but scientific considerations.

Rationale of Use of Ipecacuanha in Acute Hepatitis to Prevent Amœbic Liver Abscess.

I had already proved that tropical liver abscesses always contained amœbæ, but rarely pyogenic bacteria, so was almost certainly caused by the amœbæ; that they were always preceded by amœbic ulceration of the colon, most frequently limited to the upper fourth of the large bowel and therefore clinically latent; that amœbic dysentery was very common in Calcutta, where it had not previously been recognised. I had convinced myself that ipecacuanha—so long believed in by the most eminent physicians practising in India—was indeed a specific for the amœbic variety, although useless in the bacillary form so common in Indian gaols, where liver abscess is rare; and, lastly, I had found that slight degrees of leucocytosis might occur in cases of hepatitis before suppuration had taken place, which were diagnostic of amœbic hepatitis in what I designated the presuppurative stage. I therefore argued that although such cases might or might not give a history of previous dysentery, and very rarely showed actual symptoms of dysentery during the insidious development of a tropical liver abscess with more or less definite signs of hepatitis, yet I knew from my extensive experience of post-mortems on fatal liver abscess cases that latent amœbic ulcers must be present in some part of the large bowel, which could be healed by full doses of ipecacuanha with consequent cutting off of the source of the amœbic infection of the liver and the prevention of abscess formation, for which purpose Maclean and Chevers had empirically used it 30 years before.

ESTABLISHMENT OF EARLY DIAGNOSIS AND CURE OF THE PRESUPPURATIVE STAGE OF AMŒBIC HEPATITIS.

It was not until two years later, in 1907,[18] that I was able to record a convincing series of such successful cases, which included the 15 cases of hepatitis I met with among the 1350 consecutive fever admissions, or just over 1 per cent.; it was not surprising they had not been differentiated by busy clinicians in the absence of blood examinations. In three cases there was a previous history of dysentery and symptoms of hepatitis on admission with leucocytosis and fever for 15, 34, and 41 days respectively before ipecacuanha was given, but the temperature finally fell to normal in two to four days after its administration with rapid cessation of all hepatic symptoms. In eight cases there was no history of dysentery, and in only one that of diarrhœa, but symptoms of hepatitis were well-marked. Three of these eight were early cases who recovered without ipecacuanha, although in two of them leucocytosis and well-marked clinical signs led to negative exploratory puncture being performed for liver abscess, and in one case the abdomen was also opened, but no abscess found. I have records of a similar case in which an abscess had to be opened some months later. In these three cases the fever only ceased after 34, 39, and 49 days respectively, which is a great contrast to the average fever duration of five days after the exhibition of the specific drug in the other 12 cases. The remaining five cases of this group, with leucocytosis in four of them, all lost their fever within one to six days under ipecacuanha with rapid subsidence of the hepatic symptoms. Four cases were admitted for fever of doubtful origin without any acute hepatic symptoms or history of previous dysentery, the true nature being only cleared up by my finding leucocytosis, when ipecacuanha was given and the fever subsided, although more slowly in two of them than in the more acute form. This important class illustrates the chronic forms of amœbic hepatitis, which are most liable to be overlooked, and under any other treatment are very likely to result in most insidious liver abscess formation. Taking the whole series, it is especially noteworthy that less than 12 of the 15 were unassociated with dysentery, so that even according to Sir Patrick Manson's last edition they would still not be treated with ipecacuanha; yet I was able to recognise them as probably amœbic in origin by the blood changes, and to treat them successfully with that drug, which appears to me to be a considerable advance even on the most enlightened previous use of ipecacuanha in the prevention of liver abscess.

Comparison of the leucocyte counts of this series with those of the 1905 cases shows a most instructive difference, although both series relate to hepatitis without clinical signs of liver abscess formation, the only essential difference between them being that the later cases were alone treated with ipecacuanha. Of the 21 cases admitted with hepatitis in the first series, and treated with quinine and ammonium chloride, no less than 16 went on to suppuration, including every case in which the total leucocytes exceeded 12,000, and one with a relative leucocytosis; while, on the contrary, of the 12 cases of the second series treated with ipecacuanha no less than 11 showed well-marked leucocytosis, yet every one of them rapidly cleared up under the ipecacuanha treatment without going on to suppuration. I think there can be no doubt that suppuration was actually averted in most of them by that drug, especially as in three of them the hepatic symptoms were so acute that exploratory puncture for liver abscess was actually performed.

Significance of Differential Leucocyte Count in Amœbic Hepatitis.

Another point I have drawn attention to is that in large single amœbic liver abscess a well-marked leucocytosis is commonly accompanied by only a slight increase in the percentage of the polynuclears as compared with those usually met with in parenchymatous inflammations such as pneumonia. Thus, in not one of 19 hepatitis cases did the polynuclear percentage reach 90, while in 13 of them it was only between 70 and 80 and may be within the normal limits, especially in the more chronic cases. This is also the case even when the amœbic infection spreads through the diaphragm to involve the base of the right lung, when I have found it of diagnostic importance in differentiating the condition from a basal pneumococcal pneumonia, in which the polynuclears usually exceed 90 per cent. This is also a matter of practical importance; I have repeatedly seen amœbic hepatitis producing fixation of the diaphragm and even a shadow in the base of the right lung, clear up under ipecacuanha. In acute multiple liver abscesses with sloughing amœbic dysentery, however, the

polynuclear percentages are usually between 80 and 90, although very rarely over the latter point, while in such cases the total leucocytes may number from 30,000 to 50,000, which carries a very serious prognosis, although I have several times seen cases of very acute hepatitis with counts of from 25,000 to 30,000 recover under ipecacuanha without evident abscess formation.

Chronic Non-Suppurative Amœbic Hepatitis and Cirrhosis of the Liver in India.

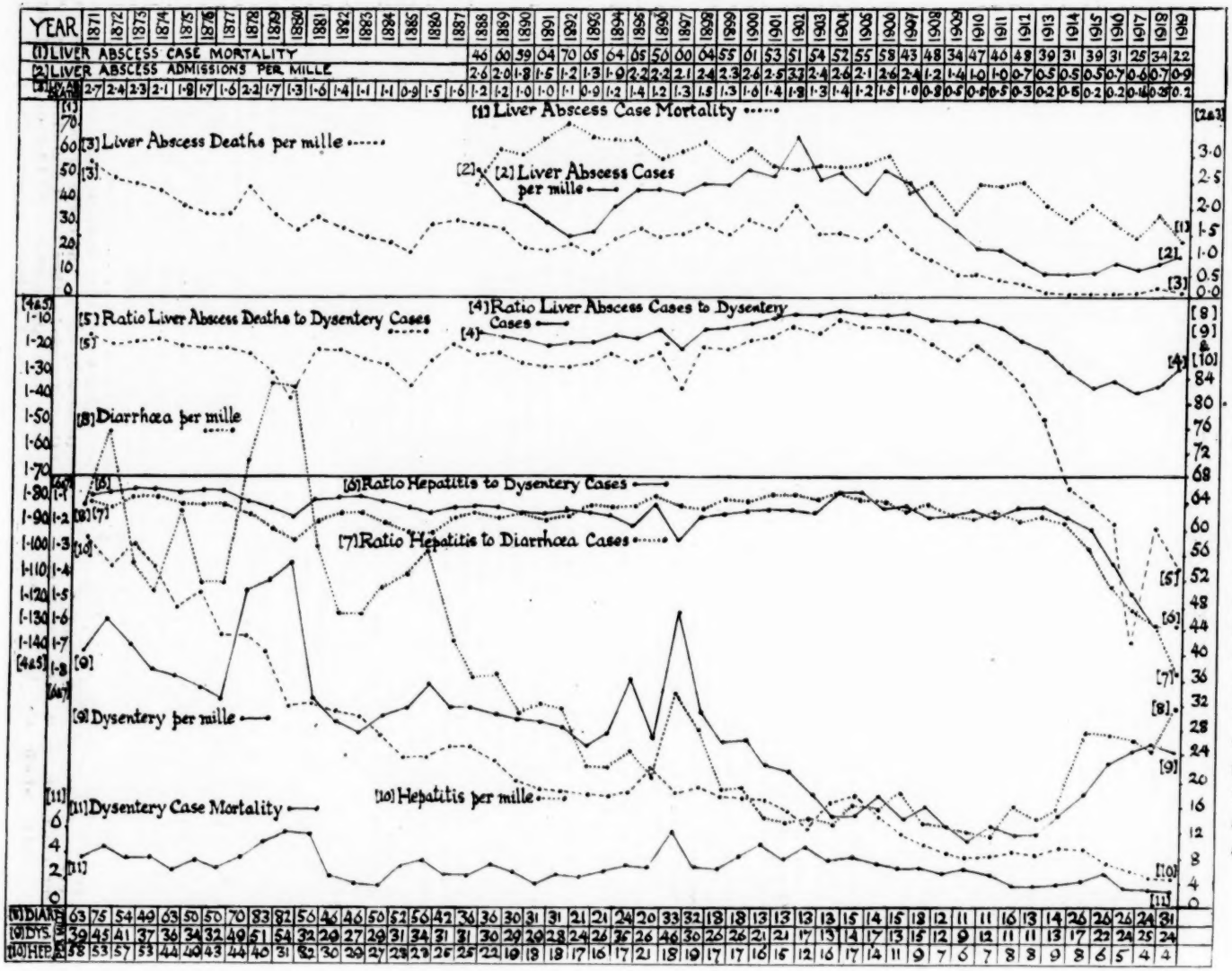
I next pass on briefly to consider the evidence which has convinced me that the usual cause of the numerous cases of cirrhosis of the liver met with in Calcutta is a still more chronic form of amœbic hepatitis not going on to abscess formation, although this factor appears to have escaped the vigilance even of Norman Chevers and of Edward Goodeve, the eminent Calcutta physician who contributed the article on cirrhosis of the liver to Reynolds's System of Medicine. In a laborious analysis of nearly 5000 Calcutta post-mortems, which occupied my odd moments for a number of years, I found[19] that the 37 years' records dealt with showed the remarkably high rate of 6·9 per cent. of well-marked cirrhosis of the liver, including latent cases in patients dying of other diseases, which is seven times as high as in a large Berlin series of autopsies. As the disease is common in Mahomedans, who are prohibited by their religion from taking alcohol, we must look to some other cause of its great prevalence in India; it has also been commonly found by Sutherland in the Punjab. The great majority of the cases were of the hobnail multilobular variety, which was also common in chronic kala-azar cases in addition to the smooth-surfaced intracellular variety I have described in that disease,[20] which was not recognised in the earlier records. On working out the percentages of the principal complications, granular kidney was found in 28 per cent. of fatal cirrhosis cases, and in 13 per cent. of latent cases, in accordance with the well-known relationship of these two diseases. Dysentery, however, was found in 25·6 per cent. of the fatal cases and in no less than 30·1 per cent. of the latent ones—a most remarkable fact. The more closely I analysed the data, the more definite appeared the relationship between the two diseases. On dividing the series into three equal periods of time, the ratio of cirrhosis to dysentery cases only varied between 1 to 3·3 and 1 to 3·8; on tabulating all forms of ulceration of the stomach and bowels other than tuberculous, no less than 41 per cent. of cirrhosis cases showed ulceration of some part of the gastro-intestinal mucous membrane, while on excluding recent dysentery and adding together chronic ulceration of the colon and scars of old dysentery, I found evidence of chronic bowel lesions, which might have preceded the cirrhosis, in 37·8 per cent. of cirrhosis cases, other than those complicating kala-azar and in 33·3 per cent. of kala-azar multilobular cirrhosis. Once more, in the advanced fatal cirrhosis cases, scars of long antecedent dysentery were more frequent than actual chronic ulcers, while the reverse was the case in the more recent latent cirrhosis cases—precisely what might be expected if the cirrhosis was secondary to the dysentery, although this point did not occur to me until after I had worked out the tables. One possible fallacy remained to be excluded—namely, that dysenteric ulceration in Calcutta might be equally common in the general run of cases as in the cirrhosis ones; to test this I specially analysed the bowel lesions in approximately one-third of the cases in each equal period of time, with the result that dysenteric lesions had been recorded in almost exactly twice as high a proportion of the cirrhosis cases as of the total cases, thus confirming the intimate relationship between the two.

There remained the question of the form of dysentery related to cirrhosis of the liver, which is difficult to estimate from the old records, but fortunately I had a further eight years' post-mortem experience in Calcutta after I had worked out the above data, during which I closely examined the large bowel for scars of old dysenteric ulcers; I can now testify that I found evidence of former chronic amœbic dysentery in something like three-fourths of cirrhosis of the liver cases—always of the amœbic variety when ulcers were present often in addition to old pigmented scars. Nor is it difficult to account for the very close relationship between the two diseases when we recall that in the usual chronic form of tropical abscess the amœba produces the formation of a dense fibrous wall around the pus through inciting a chronic form of inflammation. They reach the liver through the portal vein, to be distributed in its small interlobular branches, producing clotting within them and acute hepatitis when numerous, while they must frequently be carried to the liver during the course of chronic amœbic colitis, often of many years' duration in the common relapsing cases, which were seldom efficiently treated until very recently, while a few cases are still incurable even with emetine treatment, so that it is easy to understand how long-continued amœbic irritation of the portal branches may eventually lead to the increase of the interlobular fibrous tissue to such an extent as to produce an actual cirrhosis of the organ. Clinically we not rarely meet with repeated attacks of hepatitis, which until recently occurred in the British troops in India from eight to ten times as frequently as actual abscess formation, while it is of interest to note that Waring and Morehead have also reported several cases of abscess of the liver in a cirrhosed organ, so that this suggestive combination is by no means very rare.

Yet one more piece of evidence is furnished by the blood counts I have recorded in cirrhosis of the liver in Calcutta,[21] showing an actual leucocytosis in nine and a relative one in six more out of 24 cases examined, while in 13 of them the often incomplete notes gave a history of previous dysentery. Two of the cases showed leucocyte counts of 30,000 and 33,250 respectively, with over 90 per cent. of polynuclears, and both patients died rapidly of acute cholæmia, probably due to terminal bacterial portal infections; but the remaining cases showed moderate degrees of leucocytosis, with differential counts very similar to those I found in suppurative and presuppurative amœbic hepatitis as well as in many cases of amœbic dysentery itself—surely a very remarkable coincidence, unless my view is correct that many of the frequent Calcutta cirrhosis cases are amœbic in origin, while the matter is of some practical importance now that chronic amœbic hepatitis can be recognised early by the blood changes and can be cured by simple medical treatment, and so prevented from going on to produce an incurable cirrhosis of the liver.

"Tropical Liver" an Entity?

The latest edition of Sir Patrick Manson's classical work on tropical diseases reproduces a graphic description of "tropical liver," and advises aperients and ammonium chloride in its treatment unless it "is associated with dysentery," when "should it resist these milder measures hypodermic injections of emetine" are advised. In view of the fact that in three-fourths of my 1907 series of hepatitis resolving in a few days on ipecacuanha, as well as in very many subsequent cases, there was no history whatever of dysentery, I cannot help thinking that the survival of "tropical liver" from writings nearly a century old is fraught with danger, having probably been largely responsible for the development of so many cases of liver abscess in India under ammonium chloride treatment up to a little more than a decade ago; it is very interesting to note that such a warm advocate of ipecacuanha in acute hepatitis as Norman Chevers uttered the same warning in 1886, when he wrote: "I confess I know nothing of that mysterious disease called liver. . . . I suspect that much of this notion has come down traditionally, from old times." Abuse of alcohol doubtless often does affect the liver in the tropics as elsewhere, while it only too frequently powerfully predisposes to the development of liver abscess in persons having active or latent


YEAR
(1) LIVER ABSCESS CASE MORTALITY
(2) LIVER ABSCESS ADMISSIONS PER MILLE
(3) LIVER ABSCESS DEATHS PER MILLE
[1] Liver Abscess Case Mortality
[2] Liver Abscess Cases per mille
[3] Liver Abscess Deaths per mille
[4] Ratio Liver Abscess Cases to Dysentery Cases
[5] Ratio Liver Abscess Deaths to Dysentery Cases
[6] Ratio Hepatitis to Dysentery Cases
[7] Ratio Hepatitis to Diarrhœa Cases
[8] Diarrhœa per mille
[9] Dysentery per mille
[10] Hepatitis per mille
[11] Dysentery Case Mortality
(8) DIARR.
(9) DYS.
(10) HEP.

LIVER ABSCESS, HEPATITIS, DYSENTERY, AND DIARRHŒA IN THE BRITISH ARMY IN INDIA, 1871–1919.

Diagram illustrating the great decrease in the admissions and deaths from liver abscess in the British Army in India since the re-establishment and extension of the use of ipecacuanha in preventing the disease in 1907, and the rapid decline in the proportion of liver abscess and hepatitis cases to dysentery admissions since the discovery in 1912 of the specific action of emetine in amœbic disease.

amœbic colitis, although they may also occur in teetotallers; the remarkable immunity of women and children to liver abscess is best explained by the fact that they are much less addicted to alcohol—and, also, I think, by the fact that they are less exposed to amœbic infection in their homes than are the males travelling about on their duties in the insanitary tropics.

I therefore urge that in tropical and sub-tropical countries, even in the complete absence of any clinical association with dysentery, all liver affections with fever or leucocytosis, actual or relative, should at once be treated with emetine, and that so-called "tropical liver" should never be diagnosed and treated with aperients and ammonium chloride, &c., until amœbic disease has been absolutely excluded, which can seldom be done without the use of the specific remedy for that disease. The following is a striking example of the development of a liver abscess under ammonium chloride treatment. The patient was admitted after three weeks' fever of uncertain nature, and a few days later signs of hepatitis with leucocytosis led to exploratory laparotomy and puncture of the enlarged congested left lobe of the liver with negative result; saline purges and ammonium chloride were continued, but four weeks after admission at a second laparotomy an abscess was opened in the very part of the liver which had been proved free from suppuration three weeks before. The case terminated fatally. The following case, treated by the same surgeon with ipecacuanha on my advice, presents a striking contrast to the last. The patient was admitted for dysentery, which subsided in ten days under castor oil mixture, but seven days later he developed such acute hepatitis with high fever, pain in the right shoulder, fixed right side of the diaphragm, and a slight shadow in the right lobe of the liver with X rays that the surgeon confidently diagnosed liver abscess, and he was only persuaded with much difficulty by myself and a physician who had seen several equally acute cases—recorded in my 1907 paper—clear up under ipecacuanha to give that drug first, as the patient had suffered from recent dysentery, before operating. In two days the pain in the liver had ceased, and in three more the temperature fell to normal, all signs of liver abscess disappearing, and complete recovery resulted without any operation. Such cases are now well known to many medical men, but it is of interest to record that as a result of watching the two cases just narrated Lieut.-Colonel H. W. Pilgrim, for many years superintendent of the Calcutta European Hospital, under whose care they were, in a debate on the subject several years later, courageously stated that in past years he had seen many cases of liver abscess develop while under ammonium chloride treatment which he was subsequently convinced could have been saved from that serious complication by large doses of ipecacuanha. During the four years since the introduction of my methods out of a yearly average of 200 dysentery cases, nearly all treated with ipecacuanha, not a single case developed hepatitis, and out of an average of 82 hepatitis cases treated in the same way none developed liver abscess, while the admission to his wards with suppuration already established in the liver had fallen to about one-third of the previous number.

RECENT REDUCTION IN INCIDENCE AND MORTALITY OF AMŒBIC LIVER ABSCESS.

If all I have said regarding recent advances in the treatment and prevention of amœbic liver abscess is true, it ought by this time to be possible to produce definite evidence of a reduction in the frequency and mortality of the disease, especially in the hospitals in which I carried out my researches. As a matter of fact, as early as 1914 I recorded [23] the figures of the Calcutta European Hospital for six years before and six years after the publication of my 1907 paper on the prevention of liver abscess, while I am indebted to Lieut.-Colonel E. E. Waters, I.M.S., for the subsequent data, which are briefly summarised in Table I.

Thus the yearly cases per mille of the total admissions has fallen to about one-half and the deaths to less than one-third of the former rate, while the case mortality has also declined by nearly one-half, in spite of the earlier rate having been low owing to the inclusion of some cases treated by my method.

TABLE I.

Years.	No. of cases.	Yearly average	Per mille of admissions.	No. of deaths	Yearly average	Per mille of admissions.	Case mortality.
1901–06	69	11·5	3·9	30	5·0	1·7	43·5
1907–21	103	7·8	2·4	24	1·6	0·5	23·3

It was also well known long before I left India that the disease had become considerably less frequent among the India patients treated in the Calcutta Medical College Hospital; unfortunately, the surgical registrar was unable to provide me with figures of either admissions or deaths from liver abscess, so I am unable to prove it statistically.

Dr. A. L. Gregg has kindly supplied me with the admissions and deaths from liver abscess and the admissions for hepatitis not going on to abscess from 1904 to the end of January, 1922, in the London School of Tropical Medicine Hospital, which I have divided up into the periods shown in Table II.

TABLE II.

—	Years.	Hepatitis.	Liver abscess cases.			
		Recovered.	Total.	Cured.	Died.	Readmitted.
(A)	1904–07 ..	4	13	5	8	2
(B)	1908–12 ..	6	15	10	5	4
(C)	1913–22 ..	9	14	14	0	0

(A) Before revival of ipecacuanha treatment. (B) Before emetine treatment. (C) After establishment of emetine treatment.

Thus in the first period the deaths averaged two yearly, and in the second period one, but during the last nine years 14 consecutive cases have recovered, no case has been lost, and no case readmitted for further treatment; a very satisfactory record.

Recent Reduction in Incidence and Mortality from Liver Abscess in the British Army in India.

In the medical returns of the British Army in India, published yearly in the reports of the Sanitary Commissioner with the Government of India, we have ideal data for a study of the yearly variations in the incidence and death-rates per mille among 50,000 to 80,000 men, with the aid of which I have plotted out the curves shown in the diagram (see figure), which present features of great interest. Unfortunately, prior to 1888 liver abscess cases were included under hepatitis and congestion of the liver, although minute details of several hundred minor affections were tabulated yearly, but subsequently to the separation in the returns of liver abscess the deaths from inflammation and congestion of the liver rapidly fell to practically nil, so that it is safe to assume that the fatalities under those headings in the earlier years were essentially due to liver abscess; thus complete curves for the whole period can be plotted out of the annual deaths per mille from liver abscess in curve 3, and of the ratio of fatal liver abscess to dysentery admissions in curve 5, for the 49 years from 1871 to 1919; before 1871 the tables refer to Bengal only, so are not strictly comparable.

Relation of Hepatitis to Dysentery and Diarrhœa.

Curve 8 shows the diarrhœa rates per mille, curve 9 those of dysentery, and curve 10 those of hepatitis for the full period; they reveal a gradual decline of all three up to about 1904, varied by occasional sudden high rises of both bowel diseases without any marked

increases in the hepatitis rates, such as in 1879–80, 1885, 1895, and 1897, thus showing no relationship between the epidemic rises in bowel diseases and the incidence of hepatitis. In curve 11, representing the yearly case mortalities of dysentery, it will be seen that each epidemic rise was accompanied by a rise in the case mortality; curve 5 illustrates the ratio of fatal liver abscess and hepatitis cases to dysentery admissions, and reveals a decline in the ratio with each epidemic rise of dysentery. All these facts indicate these epidemics of bowel fluxes to have been bacillary in nature, including the diarrhœa rises—a point of considerable epidemiological interest.

The close relationship of the dysentery and diarrhœa curves, apart from the occasional epidemic rises, is further emphasised by a glance at curve 6, representing the ratio of hepatitis to dysentery cases, and curve 7, showing the ratio of hepatitis to diarrhœa admissions, for they reveal the remarkable high ratio of one case of hepatitis to each one to two cases of either bowel disease, while the two curves run a remarkably parallel and even course for 44 years up to 1914, and then fall together, clearly proving that hepatitis in India is just as closely related to diarrhœa as it is to dysentery. In 1913 [2] I recorded curves showing an intimate relationship between the seasonal incidence of dysentery and diarrhœa to hepatitis cases in two large Calcutta hospitals—the two forms of bowel diseases increasing greatly in the rainy season and being followed by the maximum incidence of hepatitis two months later—and I urged that many diarrhœa cases were really amœbic colitis without definite dysenteric symptoms, a view strikingly confirmed by the curves under discussion. Moreover, in an analysis of the clinical diagnoses and post-mortem findings in 1000 consecutive autopsies I performed in Calcutta, I pointed out [23] that in no less than 50 per cent. of fatal amœbic ulcerations of the large bowel the disease had not been recognised as dysentery at all, by far the commonest erroneous diagnosis in the wards having been chronic diarrhœa or tuberculous diarrhœa. Obviously just such cases of amœbic colitis—as it might well be called—are most likely to escape treatment with the specific remedy for amœbic disease, and to give rise later to amœbic hepatitis and liver abscess, so too much emphasis can hardly be laid on this important relationship of tropical diarrhœa to amœbic hepatitis, which should lead to the use of emetine in recurring diarrhœa as well as dysentery in such countries.

We may now proceed to consider the incidence and mortality of liver abscess from 1888 to 1919 as illustrated by the upper three curves of the diagram, curve 1 showing the yearly case mortality, curve 2 the admission-rates, and curve 3 the death-rates per mille, which is continued back to 1871 with the figures of the deaths per mille from hepatitis and congestion of the liver, as already explained. In the first place, during the five years from 1888 to 1892 the admission-rate for liver abscess in curve 2 fell steadily without any marked fall in the deaths per mille, owing to a great rise in the case mortality from 46·5 to 70·3 per cent.—the latter possibly due to increasing resort to open operation, with the spread of antiseptic treatment. This decline in the liver abscess incidence coincided with a similar fall in that of hepatitis, dysentery, and diarrhœa, as shown in the lower part of the diagram; but it was followed by a prolonged steady rise in the incidence and mortality of liver abscess from 1894 to 1907, with its maximum in 1902, although during this period the hepatitis rate (curve 10) showed a decline followed by a fairly steady low incidence, and, apart from the epidemic rises between 1895 and 1897, the diarrhœa and dysentery rates also declined, following a similar course to hepatitis. Consequently the ratio of liver abscess admissions and deaths to dysentery, shown in curves 4 and 5, also rose steadily during this period, the admission-rates rising from 1 to 13 cases of dysentery to the very high ratios of 1 to 7 to 1 to 5 from 1902 to 1907, and the ratio of hepatitis deaths to dysentery admissions from 1 to 25 up to 1 to 12 to 1 to 9 during the same period, or about double those of the earlier 25 years from 1875 to 1899—very remarkable facts which I believe are explained by the greatly increased use of salines, in the place of ipecacuanha, in India following the South African war.

We next come to the striking change in the curves beginning in 1908, from which date there was a sharp fall in both the admission- and death-rates per mille from liver abscess, curves 2 and 3, together with a slighter one in the hepatitis rate, curve 10, although the dysentery and diarrhœa rates, curves 8 and 9, showed only slight fluctuations up to 1914, after which they both presented a steady and marked rise from 1915 to 1919 without the sudden peaked rises of the earlier epidemics of bacillary dysentery, and probably due in large part to an increased prevalence of the amœbic variety. Nevertheless, during these last five years of increased bowel fluxes the hepatitis rate fell steadily to by far the lowest point of the whole 49 years' curve, the liver abscess admission-rate showed only a very slight rise with an average rate of less than one-third of that from 1895 to 1907, while the liver abscess death-rate remained at its lowest point of one-sixth of the earlier figures. Again, if we compare the rates of the last eight years, after the fall had become well established, with those of the 13 years up to 1907 before it commenced, we find a reduction in the admission-rate for liver abscess of 74 per cent. and in the death-rate of 84·3 per cent., which is of very great significance when we recall that it was in 1907 that I recorded conclusive evidence that the presuppurative stage of amœbic hepatitis could be diagnosed by blood examinations and also rapidly cured, and thus prevented from going on to liver abscess formation, by ipecacuanha, and it is equally significant that the steady fall in the admission-rates for hepatitis, in spite of a great rise in the prevalence of dysentery and diarrhœa, commenced in 1916, when the emetine treatment of dysentery was both well established and the shortage of the drug during the earlier stages of the war had been largely overcome.

It should be mentioned that in working out the dysentery curve I found it essential to accuracy to combine the cases returned as "dysentery" and as "colitis," in view of the extraordinary fact that the proportion of cases returned as colitis rose from under 1 per cent. prior to 1903 to about 60 per cent. in some recent years, while it is stated in the reports that many of the colitis cases were mild dysenteries, some being actually complicated with liver abscess, so that to have plotted out only the dysentery returns would have shown a fictitious reduction during the last 14 years.

There remain to be considered the remarkable declines in the ratio of liver abscess admissions and deaths to dysentery admissions, curves 4 and 5, and of hepatitis to dysentery and diarrhœa admissions, curves 6 and 7, during the last few years, the latter having been remarkably high and fairly stationary for the previous 40 years. Curve 4 shows the ratio of liver abscess to dysentery admissions from 1888 to 1919, during the first ten years of which the rate was comparatively low as compared with the next 14 years, while the last eight years, since I established the value of emetine in 1912, show a remarkable decline. Table III. shows the maximum, minimum, and average figures (which are not entered in the diagram for want of space) for these three periods of time of the ratios of liver abscess admissions and of deaths to the dysentery admissions.

TABLE III.—*Ratio of Liver Abscess to Dysentery Cases.*

—	—			Ratio of deaths.		
	Max.	Min.	Aver.	Max.	Min.	Aver.
1888–1897 ..	1–12	1–21	1–16	1–21	1–35	1–25
1898–1911 ..	1– 5	1–12	1– 8	1– 9	1–25	1–16
1912–1919 ..	1–17	1–37	1–29	1–34	1–136	1–82

It appears from these striking figures that in the second period the average ratio of liver abscess

cases to dysentery admissions rose to double that of the first period, while after the introduction of emetine the proportion fell to from 1 to 8 to 1 to 29, or less than one-third, while the ratio of liver abscess deaths to dysentery admissions showed a nearly similar increase in the second period, only to fall to one-fifth in the last eight years, the combined effects in the reduction of the incidence and of the mortality of curves 2 and 3 being thus brought out in curve 5.

Lastly, curves 6 and 7 show a precisely similar remarkable decline in the ratios of hepatitis to dysentery admissions from an average of approximately 1 to 1·5 for 44 years up to 1914 to 1 to 5 during the last five years, and the ratio of hepatitis to diarrhœa admissions from 1 to 2 to 1 to 6, or a threefold reduction in both instances, these remarkable declines also occurring when emetine was well established and readily available.

Further comment seems unnecessary, as, taking the diagram as a whole, it would be difficult to conceive of more conclusive evidence—first, of the reduction in the incidence and death-rate of liver abscess in the British Army in India from the date I showed it to be an easily preventable disease; and, secondly, of the fall in the proportion of liver abscess and hepatitis cases to dysentery, following the establishment of emetine as a specific remedy for amœbic ulceration of the large bowel.

Lastly, the case mortality of liver abscess has steadily fallen, as shown in curve 1, beginning in 1907, which happened to be the year immediately following the publication of my paper on the cure of liver abscess by repeated aspiration and injection of amœbicidal drugs into the cavity without drainage. The figures in Table IV. illustrate the point.

TABLE IV.

Liver abscess case mortality—	Max.	Min.	Aver.
1888–1906	70·3%	46·5%	56·5%
1907–1919	47·8%	22·5%	37·1%

These figures show a reduction of 34·4 per cent. in the average case mortality on the previous rate; while during the last four years, with good supplies of emetine, the death-rate has been only one-half of the former case mortality, probably because of the increasing use of the aspiration and emetine method, although the fact that the last-mentioned rate is still double that of my method of treatment indicates that it is still far from having been generally adopted, so a further decline may still be looked for, and will, I trust, be hastened by the foregoing demonstration of the great saving of life already brought about in the British Army in India in the last decade.

Medicinal Treatment of an Already Formed Amœbic Liver Abscess.

If two decades ago anyone had suggested that already formed single or multiple liver abscesses could be cured by simple drug treatment he would probably have been told that the age of miracles has long gone by. Nevertheless, I have long thought, and now have conclusive evidence, that it may indeed take place, under emetine treatment. I have already reported a case of very acute hepatitis clearing up under emetine, in which the patient returned to hospital a few months later and died of a totally different disease; I found post mortem an encysted liver abscess free from amœbæ or bacteria. Cases have also been recorded of patients refusing operation for obvious pointing liver abscess, who eventually recovered under emetine without operation, the abscess gradually subsiding, although in such cases it is clearly advisable to hasten the recovery by removing the sterile pus by aspiration. A useful practical help in deciding how often it is necessary to repeat such aspirations is the leucocyte count, as when a previously present leucocytosis disappears aspiration is usually negative, and it is unnecessary to repeat it.

Of much greater practical importance is the further question, Can small multiple amœbic liver abscesses, not amenable to surgical measures, be cured by emetine? The fact that a fibrous-walled liver abscess containing several ounces of pus, such as that just mentioned, may encyst as a result of the destruction of the causative amœbæ in its walls, suggests to my mind that the small early acute multiple amœbic abscesses should prove still more amenable to the specific action of ipecacuanha and emetine, and I have long felt that some at least of the considerable number of extremely acute hepatitis cases with from 25,000 to over 30,000 leucocytes, which I have seen recover under this treatment, must have passed beyond the presuppurative stage, and that early multiple abscesses, hitherto thought to be incurable, had been resolved, but it was only during my last year in India that I obtained ocular proof of this occurrence. What emetine treatment of a week's duration can do in the way of removing the extensive gelatinous infiltration of the coats of the large bowel in amœbic dysentery. All the infiltration and thickening completely disappeared, a result I never saw under the former ipecacuanha treatment, and the different coats were, as it were, dissected out by the destruction the disease had brought about, only the peritoneal coat remaining in places, with the inevitable result of fatal perforation of the cæcum and post-colic abscess, proving the great original severity of the case. If such a remarkable absorption of the diseased tissues can be brought about in the bowel wall is it unreasonable to suppose that early multiple amœbic liver abscesses may similarly be resolved by emetine?

Small Multiple Amœbic Liver Abscesses Cured by Emetine.

I was asked to examine the stool of a female patient suffering from obscure abdominal symptoms and, recognising amœbic dysentery, advised emetine, which was only given for a very short time by the surgeon in charge of the case. Some days later he opened the abdomen, and found the liver studded with numerous small abscesses, from one of the largest of which he removed a drachm or two of thick pus, in which I found amœbæ, while it was sterile on culture; emetine was pushed, with the happy result that the patient completely recovered and was in good health a year after when I last heard of her.

This success forms a fitting climax to my 20 years' Calcutta researches on amœbic disease, and finally establishes emetine as probably the most definitely specific drug known to medicine, for its action in this case is surely more remarkable than that of quinine killing the malaria parasites in the circulating blood, and one which may perhaps some day gain for it a corner in the British Pharmacopœia, even if some little-used decoction of hoary antiquity has to be sacrificed to make room for it.

CONCLUSION.

I have now completed my task, and I venture to think that the investigations I have described constitute a good example of the value of combined clinical and pathological research, which I was never tired of advocating in India, with the happy result of having been able to found in Calcutta a post-graduate and research School of Tropical Medicine with a staff of about 40 medical men and a special hospital of its own, side by side with a Medical College with another 700 beds—an example which I think even London might follow with advantage: for I have long been convinced that, in the absence of adequate post-graduate teaching, a new generation of medical men must arise before the general public obtain the full benefits of the advances made by research workers. I do not think I can end better than by repeating what I said over a decade ago: "It is already abundantly clear that I did not exaggerate when I wrote that amœbic or tropical liver abscess is an easily preventable disease in the great majority of instances, and the occurrence of amœbic suppuration in the liver should cause serious questions in the mind of the medical man in whose hands it has been

allowed to develop." To this dictum I would now add that in patients coming first under observation with an already formed amœbic liver abscess, whenever possible, the treatment of election should be repeated aspirations and subcutaneous injections of emetine in preference to incision, while when such an abscess has eventually to be opened some form of sterile syphon drainage should be made use of. A little over a decade ago liver abscess was second only to typhoid in its lethal effects on the British soldier in India, causing nearly 100 deaths a year among them, but the death-rate has already been reduced to one-sixth by the methods I have so long advocated, and I am convinced that with their more general adoption the loss from this dread tropical disease might be almost completely abolished, and yet another important step taken in rendering tropical and sub-tropical countries nearly as healthy as temperate ones, and thus further materially lightening the white man's burden of raising backward races to a higher plane of civilisation.

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ASCENDING INFECTIONS OF THE KIDNEY.*

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THE changes that have occurred in our ideas concerning the pathology of urinary infection, afford an excellent example of the way in which judgment tends to swing from one extreme to another in a controversial subject. Twenty years ago many of the forms of renal infection that we now have reason to believe are blood-borne were regarded as "ascending." The ascent of infection from the bladder to the kidney by means of direct spread along the surface of the ureter was considered to be a comparatively common event; the old form of *Bacillus coli* infection of the urinary passages was believed to be an example of such an invasion. However, as the result of further investigations doubt was thrown on the subject. The experimental work of Baureisen, and of Draper and Braasch, showed that organisms cannot ascend the ureter against the urinary current unless certain conditions exist. In order that they may reach the kidney there must be obstruction to the urinary flow and incompetence of the sphincter guarding the opening of the ureter into the bladder. Under such conditions a renal pelvis may be considered to be in open communication with the bladder cavity, and organisms can easily become disseminated in the column of stagnant urine that lies between the bladder and the kidney. Such a condition of affairs is, however, by no means common in urinary practice, and was certainly not present in the great majority of cases regarded up to that time as examples of ascending infection. As a result of this new knowledge on the subject of ascending infection, the pendulum swung to the opposite extreme; all renal infections were now believed to be blood-borne, and the existence of an ascending infection, except as a complication of severe lesions of the urinary tract, was denied. Although this view was undoubtedly nearer the truth than the previous one, it did not sufficiently recognise the possibility that infection might reach the kidney by other channels than the blood-stream and the lumen of the ureter. Subsequent work has shown that whatever may be its frequency—concerning which there is considerable difference of opinion—infection may take place through the lymphatic system. By such a route the bacteria are carried from the lower urinary passage to the kidney in the absence of all such complications as retention. A pathway—not direct, but offering little difficulty to invading organisms—is provided by the plexus of lymphatics of the ureteral sheath. Along the lymphatic path may travel infection not only from other portions of the genito-urinary tract, but also, on account of the free intercommunication that exists, from neighbouring lymphatic systems, such as that of the large bowel.

The Lymphatic Route of Infection.

It is my intention in the following paper to devote myself almost entirely to infection by such a channel. In doing so I do not wish to suggest that in actual practice this route of infection is nearly as common as infection by the blood-stream, but merely to furnish what I believe to be conclusive evidence that such a mode of infection exists and must invariably be taken into account in considering the pathology of any renal infection.

Experimental Evidence.

The first attempt to demonstrate the ascent of organisms to the kidney by the lymphatics was made by Paladino Blandini, who placed loopfuls of an easily identified organism like *Bacillus prodigiosus* in the urethra of a guinea-pig, and recovered the same organism from the kidney at the end of 12 hours. If left longer the organisms disappeared, owing presumably to the animal's tissues having overcome them. In 1909 I repeated Blandini's experiments and obtained precisely similar results. A loopful of the *B. prodigiosus* was placed in the urethra of a guinea-pig, which was killed at the end of 10–16 hours. A post-mortem was conducted on the guinea-pig under aseptic conditions, and agar tubes inoculated with portions of tissue removed from various parts of the urinary tract. My results confirmed those of Blandini.

The table gives the results of the first four experiments.

Table of Results of Four Inoculations of B. Prodigiosus into Anterior Urethra of Guinea-pigs.

Guinea-pig	A.	B.	C.	D.*
Hours after inoculation	13	13	13	18
Heart's blood	S.	S.	S.	S.
Urine	S.	S.	S.	S.
Upper end of ureter	G.	G.	G.	G.
Kidney (stripped of capsule)	S.	S.	S.	S.

S. = Sterile. G. = Growth.

* The inoculation was also made into the posterior urethra.

The results of the four experiments were absolutely consistent. In every case the organisms were easily obtained from the upper extremity of the ureters, but no growth was obtained from the kidney; the urine and heart's blood were always free from organisms; there could be no doubt that the organisms placed in the urethra were able to make their way rapidly to the upper end of the ureter. The next step in the investigation was to discover the path by which they travelled. It was also desirable to find out whether they reached their position in virtue of their own powers of movement or were swept there by some outside agency.

Investigation of Power or Agency of Movement.

With a view to obtaining an answer to this question I substituted inorganic granules for living organisms, inoculating the anterior urethra with carmine granules, or with finely-powdered ferrous carbonate. The guinea-pig was killed at the end of 12 hours, and sections cut of the upper end of the ureter and of the kidney. Where ferrous carbonate had been employed

* A paper read before the Section of Urology of the Royal Society of Medicine, March 30th, 1922.

the section was treated with ferrocyanide and hydrochloric acid, in order to demonstrate the iron granules. The results of these experiments were not so conclusive as those obtained when organisms were employed. This was due to difficulty of ensuring against the adventitious introduction of granules during preparation of the sections. Moreover, carmine granules, which collectively give a striking colour, when seen separately under the microscope are often difficult to recognise. However, the results were sufficiently conclusive to prove that inorganic matter was carried by some means or other to the upper reaches of the ureter. Moreover, a valuable hint was given to the path taken by the granules; whereas only a few scanty granules of iron were seen in the submucous coat of the ureter, more numerous specks were found in the lymphatics running outside the ureter. In addition to this an unexpected disposition of granules was discovered in the kidneys. Although no trace of iron could be found in the substance of the kidney, unmistakable granules were seen lying in the capsule.

The result of the experiments with inorganic particles suggested that, perhaps, instead of travelling by the ureter, organisms reached the kidneys by way of the plexus of lymphatics which surrounds the ureter. To test this possibility another experiment was undertaken. The ureter of a guinea-pig was exposed on one side close to the bladder, separated carefully from surrounding lymphatics, and then ligatured. By this procedure the ureter had been tied, but the lymphatics which ran with it were left intact. The anterior urethra was then inoculated in the usual way and the animal killed at the end of 12 hours. It was found that ligature of the ureter without interference with the surrounding lymphatics had not prevented the organisms from reaching the upper end of the ureter. Moreover, a hint was taken from the results of the experiment with iron granules, and in testing the kidney for organisms it was removed together with the capsule, and not merely stripped out of its capsule as had previously been done. As a result of this modification a positive result was obtained; a growth of *B. prodigiosus* was obtained from the kidneys, but the colonies were slightly less numerous on the ligatured side.

Experiment with Gram-positive Organisms.

Owing to the difficulty of recognising *B. prodigiosus* in the tissues, it was decided to repeat the experiment with organisms which were Gram-positive and therefore more easily stained. Accordingly, the urethra of a guinea-pig was inoculated with three or four loopfuls of a mixture of *Staphylococcus aureus* and of a diphtheroid bacillus. The animal was killed 13 hours afterwards, and transverse sections of the ureter and the surrounding lymphatics were prepared. The sections showed the lymphatics outside the ureter crowded with organisms; those seen were Gram-positive cocci and bacilli. Morphologically they were identical with those previously placed in the urethra. No organisms could be seen in the lumen or walls of the ureter itself. The appearance of the section of the ureter is reproduced in Fig. 1.

Equally interesting were the results obtained from a microscopic examination of the kidney. Radial sections were cut and stained for organisms by Gram's method. A large number of cocci and bacilli were again found, but in this case the organisms were seen to be lying in the lymphatics of the capsule. Very few organisms were found in the substance of the kidney, the few discovered in this situation had apparently made their way there along the planes of connective tissue which ran into the parenchyma of the kidney from the capsule.

Conclusions Derived from Experimental Investigations.

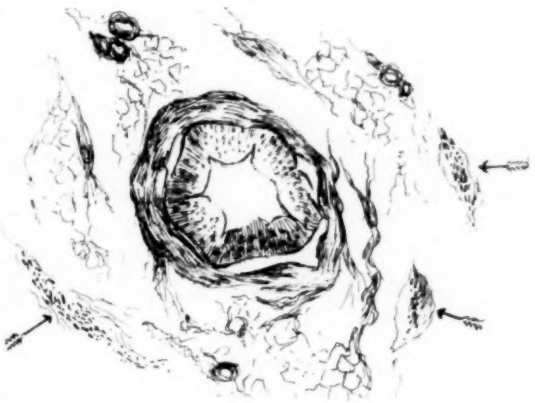
The net results of these animal experiments were, therefore, to prove the following:—

1. That organisms placed in the lower urinary passages could easily reach the kidney via the peri-ureteral lymphatics.

2. That the renal capsule formed an important link in the lymphatic chain connecting the upper and lower urinary tract, and is the first situation in which organisms are found in cases of renal infection by the lymphatic route. The truth of this observation was confirmed by subsequent experiments, in which an abundant growth was obtained from the kidney capsule even when the kidney itself proved sterile.

These results were confirmed in 1913 by Thiele and Embleton, working with *Bacillus mycoides*. They carried the research a step further; having found, as I had done, that the blood and the urine were invariably negative, even when a plentiful growth of organisms had been obtained from the kidney, they increased the size and the virulence of the dose of *B. mycoides* placed in the urethra. As a result they discovered that if a larger quantity or a more virulent strain of mycoides were employed the organisms apparently succeeded in passing the barrier of the retroperitoneal glands, reached the thoracic duct,

FIG. 1.



Experimental inoculation of the urethra of a guinea-pig with diphtheroids and staphylococci. Section shows numerous organisms (indicated by arrows) in peri-ureteral lymphatics 12 hours after inoculation.

and were carried from thence into the blood-stream. In this way an infection, at first purely lymphatic, became in the end hæmatogenous. In cases in which this had happened organisms were found not only in the blood but also in the urine. This, of course, was contrary to what had been found when the infection remained entirely lymphatic. In other words, organisms reached the urine, not through the lymphatics, but through the blood. Thiele and Embleton's results were, therefore, of great interest; they not only confirmed my own findings and showed that a lymphatic infection of the kidney could take place without organisms being found in the urine, but also that once organisms had gained access to the blood-stream, a bacilluria rapidly followed. These results, of course, corroborated previous work by Biedl, Kraus Rovsing, and several others, who had shown that organisms circulating in the blood are excreted by the kidney. They are also in harmony with the findings of Eisendrath and Schultz, who traced the course of ascending infections by following the path of the round-celled infiltration. This inflammatory infiltration they found to trace out in a most accurate manner the course of the lymphatics as determined by the work of Kumita and Bauereisen.

Post-mortem Demonstration of Lymphatic Infection.

Although animal experiments may be of the greatest help in throwing light on such a problem as that under present consideration, great care must be exercised not to deduce too much from their results. Laboratory experiments can only reproduce to a greater or less extent the conditions in the human subject. It was, therefore, necessary to see whether results obtained from animal experiments were confirmed by post-mortem findings in man. An excellent opportunity

was afforded me by the death of a patient of mine some 36 hours after enucleation of the prostate. The patient was a man of 76, admitted with complete retention, for which a preliminary suprapubic puncture was performed. Owing to the fact that he was suffering from senile dementia and spent most of his time exploring his bladder through the suprapubic wound, I decided to enucleate his prostate earlier than the state of his kidneys really justified. He died 40 hours after the operation. The prostatic capsule, bladder, ureters, with surrounding tissue, and the kidneys with a certain amount of suprarenal fat, were removed for histological examination. Numerous paraffin sections were cut, stained for organisms, and carefully examined. Fig. 2 represents diagrammatically the areas submitted to examination and the situations in which organisms were found. Sections were first made of the capsule of the prostate with adherent particles of prostate. Organisms were found in this situation in such numbers that they formed dark lines clearly visible under a low power. The section somewhat resembled that of the uterus in a case of puerperal infection, the organisms streaming back from the surface to the lymphatics running to the fibrous capsule of the prostate. In sections of the bladder no organisms were seen either in the submucous or the subserous lymphatics. They were next found in the lymphatics surrounding the ureter, especially in those accompanying the blood-vessels lying in the peri-ureteral sheath. The appearance of a section in this situation was strongly reminiscent of the similar section prepared from a guinea-pig after urethral inoculation with staphylococcus and diphtheroids. The lymphatics were indeed so crowded with organisms that it would be difficult to miss them. The lumen of the ureter was free, but one group of organisms was seen in what was presumably a lymphatic space in the muscular coat. Sections of the pedicle of the kidney, the pelvis, and a calyx all proved negative. A section through the capsule and cortex, however, showed the presence of a small round-celled infiltration just beneath the capsule, and the existence of organisms in the lymphatics of the capsule. The results of the examination were, therefore, precisely similar to those obtained by animal inoculation. The chief difference between the laboratory and the chemical experiment was that in the guinea-pig the local damage inflicted on the urethra at the moment of inoculation was trivial, whereas in the case of the human subject it had been severe.

Course of the Renal Lymphatics.

At first sight it may seem surprising that the lymphatics of the urinary tract should provide a path along which organisms can reach the kidney. The lymphatic route that links together the upper and lower portions of the urinary tract is at best indirect, and at certain points the direction of the main lymphatic current is against the invading organisms. However, too much stress must not be laid on this latter point, for there is ample evidence to show that the sluggish and wayward lymphatic flow, with its countless backwaters and cross-currents, can offer but little difficulty to the progress of organisms.

Before proceeding further it will be advisable to summarise what is known concerning the lymphatics of the kidney. Their general disposition is shown by Fig. 3, in which two networks will be seen, a superficial and a deep. The superficial (investigated by Mascagni) lies immediately beneath the capsule, and is remarkable for the fineness of its meshes and the difficulties that it offers to injection. It communicates by means of converging trunks running in the fibrous septa of the kidney with the deep plexus lying in the substance of the kidney beneath the pelvis. From thence the lymphatics run with the renal artery and vein to end in the juxta- and pre-aortic glands. The superficial plexus lying in the capsule, in addition to communicating with the deep plexus, sends divergent trunks to a third plexus lying in the fatty capsule. Moreover, the main renal lymphatic system is linked up to neighbouring systems by means of communicating channels. In this way connexion is established with the lymphatics, draining the upper part of the ureter, the subdiaphragmatic plexus, and (at any rate on the right side) with those of the ascending colon (Francke). In the same manner, as Sakata has shown, free communication exists between the lymphatics of the upper middle and lower ureter and between the last-named and the lymphatics of the bladder. Still more interesting, as a possible route along which a kidney may become infected, is the free communication between the lymphatics of the female genitalia and those of the lower ureter.

FIG. 2.

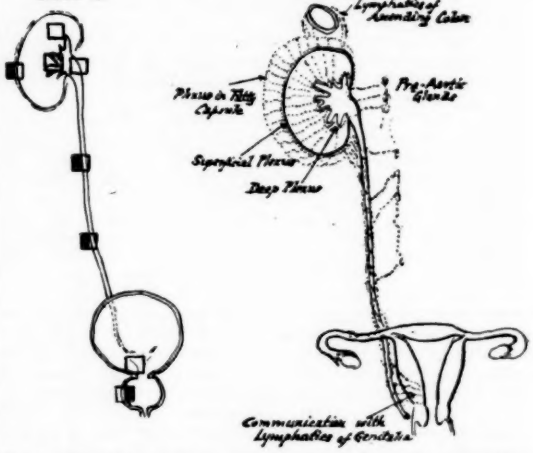


FIG. 3.

Fig 2.—Prostatectomy case. The squares represent the portions of the urinary track examined for organisms. The positions in which organisms were found are marked in black—i.e., the prostatic capsule, the peri-ureteral tissues, and the renal capsule.

Fig. 3.—Diagrammatic representation of lymphatics of the urinary tract showing communication with those of the colon and of the genitalia.

A grave menace may be offered to the kidney by a focus of infection in the female genitalia, granted the possibility of dissemination of organisms by the lymphatics.

A Case of Renal Infection Ascending from the Genitalia.

As an example of an ascending renal infection, resulting from a focus in the female genitalia may be cited the following case:—

F. S., aged 32, admitted Feb. 3rd, 1922, to the Royal Northern Hospital for dysmenorrhœa. On the 10th, under general anæsthesia, cervix fully dilated and endometrium curetted; large stem inserted. During dilatation of cervix the tissues were noted to give suddenly, as though a tear had occurred. On the 14th pain and tenderness right side of abdomen and down right leg; pain on micturition. On the 15th severe pain right iliac fossa, with tenderness and resistance. Per vaginam, uterus tender but not markedly enlarged. Thickening in right fornix suggestive of parametritis. On the 17th rigor, vomiting, rise of temperature and pulse. Urine on examination contained pus. Leucocytosis 21,000. Vomiting continued throughout the day with renal pain and rigor. Expectant treatment adopted, increased fluids and alkalis. Patient transferred to my care.

Operation.—On the 18th vomiting continued. Condition remained the same, but only 8 oz. of urine passed in 24 hours. In view of pain and suppression of urine an exploratory operation was decided on, a diagnosis of lymphatic infection of the kidney having been made. On exposure of the kidney it was found to be enlarged and engorged with blood. A marked feature was œdema of the areolar tissue around the lower pole of the kidney. This œdematous tissue appeared to be continuous with œdema of the tissues surrounding the ureter. Capsule easily stripped. No pus could be seen, even on incision of cortex. The kidney was decapsulated and returned into position. Sections of capsule,

perirenal areolar tissue from lower pole of kidney, and a small fragment of the cortex were removed for histological examination. Blood culture, negative; urine grew a coliform bacillus. On the 19th very little pain, 30 oz. of urine passed, fall of temperature and pulse.

Subsequent History.—Uninterrupted recovery.

Sections.—Paraffin sections stained in methylene-blue showed the following: (1) Section of renal cortex with capsule. Round-celled infiltration below the capsule. Considerable numbers of organisms found in the capsule. No organisms or infiltration in the deeper parts of the kidney. (2) Section of capsule. Scattered round-celled infiltration, numerous organisms, both bacilli and cocci. (3) Section of perinephric tissue from lower pole of kidney. Some round-celled infiltration and numerous organisms, similar to those found in renal capsule.

Remarks.—The case was evidently one of infection travelling by the retro-peritoneal lymphatics. The point of entry was presumably a tear in the cervix occurring during dilatation. The close relation of the ureter to the cervix rendered it easy for organisms to reach the peri-ureteral lymphatics and from thence to travel to the plexus in the capsule of the kidney.

The Kidney of an Ascending Infection?

Sometimes an infected kidney is described as having an appearance typical of an ascending infection. Now what can be regarded as characteristic of kidneys infected by the ascending route? Cabot, in an excellent paper on renal infections, published in 1916, gives it as his opinion that there are no features by which a kidney infected by the ascending route can be distinguished from one infected through the blood-stream. According to this observer a different localisation of lesions in the kidney in no way denotes that infection has reached it along a different path. A variation in the lesions seen in the kidney is for Cabot an indication that different organisms have been responsible for the infection. For example, the pyogenic organisms produce cases of capsulitis, perinephric abscess, and cortical lesions generally, whereas the coliform group of bacilli are responsible for pyelitis, pyelo-nephritis, and the medullary type of infection.

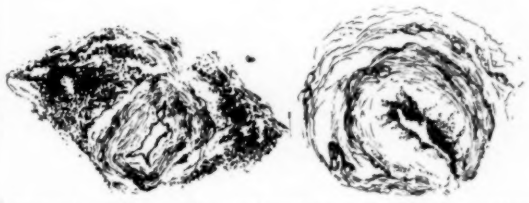
To the writer the above contention appears highly improbable. The lesions produced by different organisms as a rule resemble each other closely; only in dealing with special organisms, such as the tubercle bacillus and *Treponema pallidum*, does an ætiological classification become possible. A different localisation of lesions in the kidney is, in the writer's opinion, much more likely to be dependent on the route by which infection has reached the kidney than on the precise nature of the infecting organism.

In order to prove his thesis that lesions of the so-called ascending type of infection are indistinguishable from those of the blood-borne disease, Cabot cites two cases, one a man dying with renal infection after repeated catheterisation for retention, the other a woman dying two weeks after an operation for fibroma, followed by infection of the wound. The post-mortem appearance of the kidneys in both cases was identical. The first case was obviously one of *ascending* infection, and since the second case had not suffered from urinary trouble before admission and had never been catheterised Cabot considered her a safe representative of *hæmatogenous* infection. My own opinion is that his choice was unfortunate. The woman died of suppuration following the removal of a fibroma; what could offer a better chance for the ascending type of infection of the kidney via the lymphatics than a septic focus in the uterus? We have already examined such a case of renal infection following a tear of the cervix. The fact that in both of Cabot's cases the post-mortem lesions of the kidney were similar—lesions of the capsule and cortex—is to me no proof that an ascending and a hæmatogenous infection produces identical lesions. To me, in the absence of other evidence to the contrary, both cases would appear to have been "ascending," and to have produced lesions that are absolutely characteristic of infection reaching the kidney by the lymphatic route—i.e., capsulitis and an infiltration of the cortex.

Tuberculous Infection.

Whilst the present paper deals mainly with infections other than those due to the tubercle bacillus a reference must be made to tuberculous infection. A tendency has always been shown to place the tubercle bacillus in a class apart and to allocate to it a path of infection and a method of spread different from those of other organisms. For example, the orthodox surgeon still holds that *a tuberculous*

FIG. 4.



Advanced genito-urinary tuberculosis. Transverse sections through the right and left ureters showing tuberculous infiltration of the inner coat on the left side, and of the peri-ureteral tissues on the right.

epididymitis is a blood-borne lesion, although a *gonococcal* epididymitis is known to be due to infection spreading down the cord. For some reason hesitation is shown in admitting that a tubercle bacillus can follow the same route as the gonococcus down the cord. A similar reticence is shown in applying conclusions that have been reached with regard to infections of the urinary tract by, say, a pyogenic organism, to lesions of the same tissues produced by the tubercle bacillus. In the writer's opinion such discrimination is unjustified both on *a priori* and on *a posteriori* grounds. Although the histological lesions produced by the tubercle bacillus differ from those of the colon bacillus, there is no reason for believing that the path by which it reaches its destination is essentially different in the two cases.

Examination of a Case of Advanced Genito-Urinary Tuberculosis.

In Fig. 4 are shown transverse sections of the right and left ureters from a case of advanced genito-urinary tuberculosis. It will be noted that there is a striking difference in the location of the tuberculous infiltration on the two sides. The mucous membrane and inner coats of the right ureter appear healthy, the tuberculous infiltration mainly affecting the peri-ureteral sheath. On the left side the converse is true, the mucous membrane and inner coats being ulcerated, whereas the outer coat and peri-ureteral sheath show only slight infiltration. These specimens were from a man of 26 who died with advanced vesical and prostatic tubercle. He had a left kidney profoundly diseased, and a right kidney apparently healthy. Fig. 5 is a diagrammatic representation of the location of his lesions, and shows what I believe to have been the path taken by the infection. The primary lesion in the urinary tract was probably the left kidney, which became infected via the blood-stream from a focus elsewhere, possibly in this particular case in the right lung. From the tuberculous pyelonephritis thus produced tubercle bacilli were carried by the urine to the lower urinary passages and the bladder and prostate became infected. From

FIG. 5.

Advanced genito-urinary tuberculosis. The lesions found post mortem are shown as dark areas, and the suggested course of the disease indicated by arrows.

thence the infection climbed up the right ureter, not by its lumen, but by means of the peri-ureteral sheath, which in the present instance was diseased to a point roughly midway between the bladder and the still healthy kidney. Had the patient survived longer the disease would probably have reached the level of the kidney, and this organ would also have become infected.

Although there is no definite proof of the correctness of the interpretation offered, both from direct and collateral evidence, it would seem probable that the sequence of events sketched above is by no means uncommon in urinary tuberculosis. Brongersma has, of course, been a strong advocate of the lymphatic route in tubercle of the kidney, but he has laid emphasis on the possibility of its infection by the lymphatics from neighbouring viscera (and particularly the lung) rather than from the lower portions of the urinary tract. Whilst infection through the diaphragm by the lymphatics lying on the aorta is always possible, it would not appear to be common in actual practice. In any case such a line of approach is infinitely less common than an advance along the lymphatics of the peri-ureteral sheath.

Lymphatic Infection of the Kidney a Possible Cause of Chronic Nephritis.

Of the greatest interest is the speculation as to whether the readiness with which organisms reach the kidneys by the lymphatics may not explain the ætiology of certain types of chronic nephritis known to the physician. Although the ætiology of such a condition as chronic nephritis is unknown, there is a growing consensus of opinion amongst pathologists that the lesion is inflammatory, not improbably bacterial in origin. Those who accept this view have invariably presumed that the path by which bacteria arrived at the kidney was the blood-stream, but in view of the ease with which infection can reach the kidney from any abdominal focus by means of the lymphatics other possibilities must be kept in mind. The lesion that repeated lymphatic invasion of the kidney by organisms of low virulence would be likely to produce would be fibrosis of the cortical area with thickening of the capsule. We have only to postulate a slight alteration in the mucous membrane in order to have an extensive invasion of the lymphatics of that area by organisms from the lumen of the bowel. Repeated infection of the renal cortex by such a route and with organisms of a low degree of pathogenicity would most certainly result in chronic changes in the capsule, and in fibrosis of the cortex. The fact that no evidence of this chronic irritation of the kidney would be furnished clinically by previous examinations of the urine for pus or organisms lends additional support to this hypothesis. We have already seen that organisms may swarm in the capsule of the kidney without appearing in the urine; consequently repeated invasions of the superficial lymphatic plexus might take place and yet produce no clinical signs until considerable destruction of the renal cortex had occurred. Interpreted in terms of this hypothesis the fibrosed kidney of chronic alcoholism would simply mean a kidney whose cortex had suffered repeated bacterial invasion as the result of chronic irritation of the alimentary canal and escape of organisms into the lymphatics. Such a sequence of events, although entirely hypothetical, would be in strict harmony with our previous findings.

Conclusions.

It only remains to note the conclusions that may be drawn from the foregoing evidence. These may be conveniently summarised as follows:—

1. That although the blood-stream is the commonest route by which an infection reaches the kidney, organisms may also reach it by the lymphatics surrounding the ureter and between its muscular coats.

2. That the kidney capsule is an important link in this lymphatic chain, and is the situation in which organisms are most consistently found in cases of ascending infection.

3. That in early cases of lymphatic infection of the kidney no organisms are found in the urine.

4. That there are reasons to believe that a tuberculous infection of the kidney may take place along a route precisely similar to that followed by pyogenic organisms.

These conclusions are not without some bearing on the question of treatment. In the first place they lay stress on the importance of dealing with any form of infection, however trivial it may appear. In the second they raise the question as to whether decapsulation might not occasionally be beneficial as a means of dealing with ascending infections, for, as we have seen, the renal capsule is of supreme importance in all cases of lymphatic spread. Last of all, the conclusions at which we have arrived suggest the possibility that repeated infection of the renal capsule may explain the origin of certain forms of chronic nephritis, and that decapsulation might not be without effect on the progress of such a condition.

I am indebted to my colleague, Dr. T. H. G. Shore, for the specimen illustrated in Figs. 4 and 5.

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NATURAL CURE OF THE COMMON COLD.*

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I SHALL put my subject under three heads—colds, generally considered; what happens in a cold, in detail; and the treatment.

General Consideration.

Definition.—I define a cold as a bacterial infection of the mucous membrane of the nose, throat, larynx, and perhaps trachea. If it extends beyond this we are dealing with something bigger than a cold.

Importance.—A cold, although generally talked of as a trivial affair, may be very important, for three reasons: (1) It may cause great discomfort and more or less complete incapacity for work; (2) it may lead to complications in the accessory sinuses, or even be the starting-point of a bronchitis; and (3) if we wish seriously to study bacterial infections—i.e., to research—it is necessary to begin on the simplest type, and the cold occurs where there is no complication from obstructed drainage, and where the lesion can be freely observed. It is, therefore, altogether suitable for study of infection in its simplest form.

Meaning of Clinical Signs.—Cold is a name given to a group of signs which occur so frequently together that a person seen exhibiting this group is at once said to have a cold. This being decided, there are two ways of looking at the condition—first, that it is a disease, of which the signs are of bad omen to be got rid of at any cost; secondly, that the bacteria are the disease, and the signs the outward part of natural curative reaction of which the other part is going on in the tissues and blood—so that the signs are of good omen and to be encouraged.

* A paper read before the Section of Medicine of the Royal Society of Medicine, March 28th, 1922.

I have always assumed in my work that the latter interpretation is correct, and that by study of any bacterial disease we shall be able to find several types of reaction, of which one or more will cure quickly and completely, whilst others need a longer time. We have, in fact, to find the best type of reaction, learn how to set about reproducing this in our patient, then put our knowledge into practice.

Types of Cold.—The charts shown are all of colds in my own person. I have not succeeded in getting anyone else sufficiently interested to offer himself as a subject of study. Though objection may be put forward on this account, I do not think it will hold, because I am able to show the only three possible main types of cold, all occurring in myself at different times; one chart will show all three types in series. We see, therefore, that all types may occur in one person. If we talk to several people, we find that most are under the impression that they always take a cold in more or less similar fashion: as a short affair, as a long affair, or always with fever, and so on. The difference in the way different persons will take a cold is clearly marked, and the same applies to bigger infections. I explain this as a difference in the "sensitiveness" of the reactive mechanism to be found in different people. The sensitive reactor responds to the stimulus early, and brings all the available defence forces to bear while the lesion is still small. There will be a graduated series till we reach the other extreme, the sluggish reactor, who will not react till the infection has become a larger affair; he then brings his forces to bear, but against a much larger proposition. I think this idea will explain why two people may take what appears to be a similar infection in entirely different fashion.

What Happens in a Cold.

I shall describe what takes place in the nose, as the principle is the same for the throat or larynx, and shall try to give a complete picture of what happens—not clinical or pathological, but exactly what happens. Apart from the differences in people, the different types of cold are due to the virulence of the attack and the size of the infection; thus there are all sizes from the smallest to something approaching a bronchitis.

In spite of this series it is possible to distinguish three quite different types, clearly marked off one from the other. There are only three types of defence against acute bacterial infection—local exudation, fever, and pus. In the nose, therefore, where there is free play for the reactive forces, and no obstruction to drainage as in a boil, one would expect to be able to demonstrate the complete series. My charts will show you that this is so.

(1) *Local Exudation.*—Apart from the sneeze, the first sign of cold is a feeling of soreness in the nose. When this appears the infection has got firm hold, but only in the superficial layers of the membrane. The first reaction quickly follows as a more or less profuse discharge of watery mucus; this is local exudation, the beginning of the battle. As the discharge increases, the soreness decreases; the bacteria are being washed out of the membrane to the physiological exterior of the body. Now when the cells have discharged mucus, in order to renew the supply and keep up the defence, there must be, and is, increased circulation in the local capillary and lymph vessels. As a result of all this we have now the three cardinal signs of inflammation—dolor, rubor, and a certain amount of tumor. If this reaction is successful, cure is effected here. If not, the bacteria spread, first by the line of least resistance—i.e., along the surface; secondly, deeper into the tissues. When this has happened, the bacteria come into the region of lymph and blood channels; the increased local circulation washes some (or their products) into these channels and so into the blood-stream. When this inoculation is of sufficient amount we have the typical reaction of the next group, to which we pass on.

(2) *Fever.*—The bacteria are now advanced into the deeper layers of tissue; as this occurs the mucus gradually ceases to exude—the reaction, in fact, is being gradually transformed from a local to systemic affair. From experimental work and from clinical observation we know a good deal of what happens when bacteria enter the blood-stream. I believe the present idea is roughly as follows: the bacteria in the blood combine with, neutralise, or otherwise put out of action a certain quantity of the normal antibodies present in the blood. When any disturbance of the normal equilibrium of the blood fluids occurs there is always some reactive process. In this case the reaction seems to occur through the sympathetic nervous system, as described by Dr. Langdon Brown,[1] leading to increased action of katabolic endocrine glands, increase of sugar in the blood, energy and heat formation, and so rise of temperature. I take it, the object in view is the replacement of the lost antibodies to combat the invasion, and finally healing of the lesion. This stage of a cold is an example of an "auto-inoculation." It may be said that natural vaccine has been prepared in the lesion, is inoculated by the increased circulatory effort, and if things progress favourably cure will quickly follow.

There is one important point still to mention. As the temperature rises malaise also develops to a greater or less degree. This has a very important bearing. It is a natural indicator pointing to rest; the more marked the malaise, the stronger the indication. Malaise develops as the temperature rises, but if the reaction is successful it passes off when there are no more bacteria being washed into the blood—i.e., when the local lesion has been cleared of bacteria. If the patient is now at rest the temperature will rise perhaps another half or one degree, and then fall slowly to normal. Local healing takes place, and cure is complete.

I think it is obvious that rest should be needed after fever if we consider what is going on. Big things are happening in the blood and tissues of the body, and the nature of the reaction shows that a great deal of energy is required. Nature therefore tells us to conserve all our energy for the one purpose—at that time vital—of combating the infection.

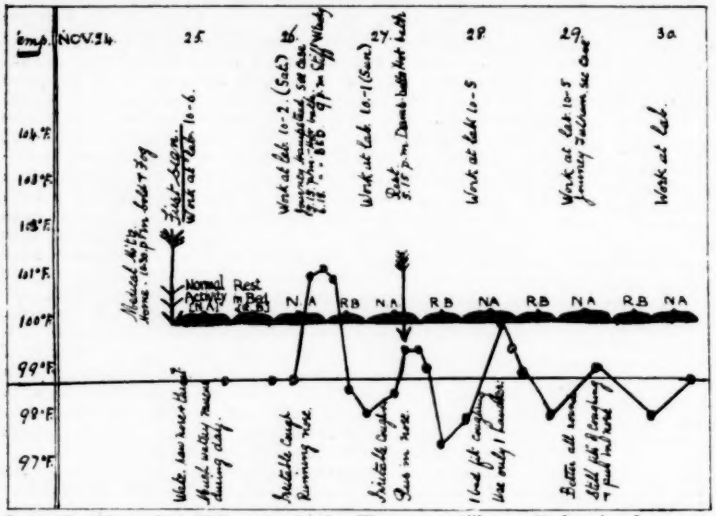
(3) *Pus.*—The two reactions so far described may be complete in 48 or at most 72 hours. During the fever it is more than probable that a number of polynuclear cells come into action in the deeper tissue. If the reaction is not successful we have a complete change of scene. The rapid circulation having failed of its purpose, stasis occurs and the membrane becomes very much more swollen; the nasal passage may even become completely obstructed. Three to four days are required for the formation of pus. As pus develops temperature lessens; we come to the long method of cure, which is also the last line of defence. At this stage we have a cellular type of reaction which cannot be hurried; it is bound now to be a question of days, possibly weeks, instead of hours. Reaction by pus may follow direct after that by exudation without appearance of fever. This will occur when exudation keeps the infection subdued for three or four days, by which time pus formation has sufficiently developed and will take over the defence.

Treatment.

There are, then, three main types of defence: local exudation occurring mostly on the first day, fever probably occurring on the second day—either of which may effect cure in about 48 hours from the time of their appearance; and the third type, pus, which does not come into action until the third or fourth day, and then only if the two previous types have failed. Cure by pus is bound to be a matter of days, not hours. We have seen also that if fever develops, rest—in practice, one day in bed—is essential—i.e., fever means one day's incapacity for work.

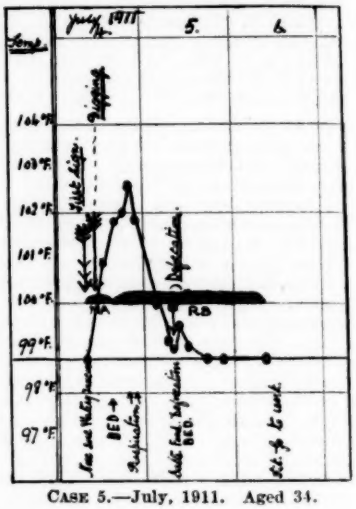
[1] Brit. Med. Jour., 1922, i., 85.

FIG. 1.



CASE 16.—November, 1921. Aged 44. There was still pus discharging from nose and larynx till Dec. 11th—i.e., 17 days.

FIG. 3.

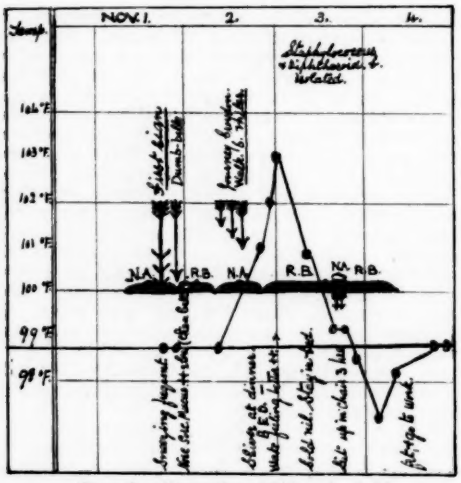


CASE 5.—July, 1911. Aged 34.

First sign of cold, triple-barbed arrow. Attempts to increase reaction, ordinary arrow.
Writings: Above normal line, causes of disturbance; below normal line, signs or symptoms.
N.A., Period of normal activity. R.B., Rest in bed.

Obviously the best type of cure is by local exudation, which is also the easiest to put into practice. Here we have a local circulatory action enabling the mucus cells to keep up a prolonged discharge of mucus and to wash the bacteria to the exterior. In treating this stage, therefore, we aim at prolongation of the discharge until there are no bacteria left in the lesion, and from personal observation I believe this point can be recognised as follows. I think the best and simplest way to encourage the discharge is to take our

FIG. 2.



CASE 2.—November, 1909. Aged 32.

grandmother's advice and to go for a good smart walk; if the weather is cold and frosty, so much more easily will the desired end be attained. It will probably be necessary to walk from one to two hours, the time depending on the size of the lesion to be dealt with. I think one can recognise that the reaction has been successful when, while one is still walking, the discharge of mucus gradually ceases of its own accord. Any continued exercise—e.g., golf—will serve. If next day it is found the treatment has been unsuccessful, the same thing, or its equivalent, has to be repeated. As described above, this same process will now be likely to cause fever; if the latter is trifling, rest may be dispensed with, but if the temperature reach, say, 102° F., it will mean a day in bed. It is possible to get quickly rid of a slight feverish cold without extra rest, but the cure will be more or less delayed. In dealing with a big infection rest is essential. One has to treat each case on its merits. As I have hinted above, I cannot suggest any quick cure for a cold in the pus stage, unless it become so chronic that vaccine treatment is indicated. But as a rule the third and fourth days are the worst, after this the discomfort gradually lessens, and the matter will probably not be serious enough to suggest such measures.

If we now put the principle into a nut-shell it comes to this. On the first day, take some form of outdoor exercise continued over one or two hours. If this cause fever, judge the extent and take rest as indicated. The meaning of signs as described above gives the indication all through. If the cold reach the pus stage, nature's method is slow, and the only way I can think of to hasten it is by vaccine, but this will not usually be thought worth while.

By way of contrast, and to emphasise what I have just said, let us consider the opposite method of treatment. One might argue that when indoors in the warmth and at rest, especially when in bed, the nose feels more comfortable and the bothering mucus discharge ceases, both of which certainly happen, therefore this is the best line of treatment. Let us see what happens if we do this during the first two days of a cold. Infection has taken firm hold. It has not been cured. We go to bed, or the next best thing, rest in the warmth, and feel more comfortable for the time certainly. On the other hand, the bacteria will also be more comfortable; they are no longer worried by the exudation of mucus, and the warmth favours rapid multiplication. We see, therefore, that this method is exactly opposite to what should be done, and will most surely mean incomplete early reaction, and therefore that the cold must reach the pus stage.

CASE 16 (Chart 1).—It is not necessary to describe this case in detail, it represents the ordinary bad cold, and includes two or three days partial incapacity for work, with interference with sleep owing to blocking of the nostrils at night; four days fever; five to six days irritable cough; development of a pus discharge which lasted for at least 17 days, after which I took no further interest in it. There are several points

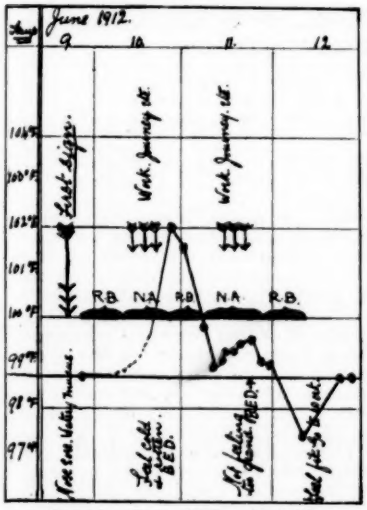
to observe. First, there is on the twenty-fifth attempted cure by local exudation which failed. This is followed by attempted cure by fever, which also failed. This, again, is followed by cure by pus which took about three weeks to take effect. We see, therefore, the three types of defence, in the order named, occurring in this sequence in one person and as a result of one infection. This, I think, demonstrates that I can take a cold badly, and that I am capable of at least attempting cure by all three available methods—i.e., I think I have proved a good subject for purposes of demonstration.

CASE 2 (Chart 2).—This case represents the cutting down of the cold so as to omit the pus stage, a result obtained by deliberate intent. On Nov. 1st, deciding that a cold was developing, I attempted to cure by local reaction by increasing this by dumb-bell exercise. The exercise lasted 15 minutes, increase of general circulation probably 25 minutes. I know now that this is not long enough as a rule. This did not effect cure; I had to go on next day to the fever reaction followed by one day in bed and so to cure. There is one point to notice which, in conjunction with others, is an extremely important observation. On the 3rd the fall of out both pus and fever. The infection was in the nose only. On rising on the sixth the nasal discomfort showed that infection had got a firm hold; watery mucus during the day confirmed it. Accordingly at 5 P.M., in frosty weather, I took a walk of about four and a half miles. During the first part of the walk the discharge was considerably increased, but later it ceased almost entirely. The temperature, after half an hour rest at home, registered 99° F. I believe the cold was in reality cured by this one walk only. But, being particularly anxious to have a good chart of cure by local reaction only, I took a second walk on the second day in order to make assurance doubly sure. During this there was a slight increase of mucus, but I cannot be sure how much of this was due to the frosty air alone, or if this second effort really put the finishing touch to the cure. At any rate, there was no further trouble of any sort, nor has there been since.

Summary.

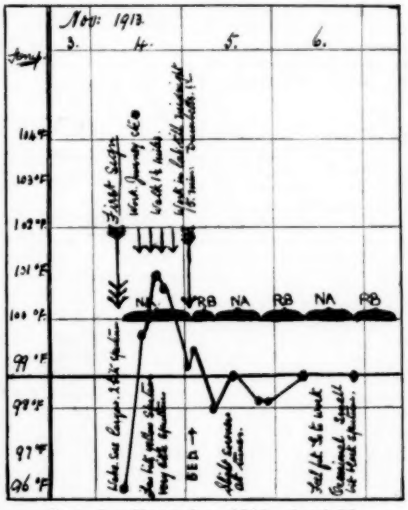
The natural defence against a cold is as follows: on the first day, local exudation; on the second day, either local exudation, if the lesion is still small, or

FIG. 4.



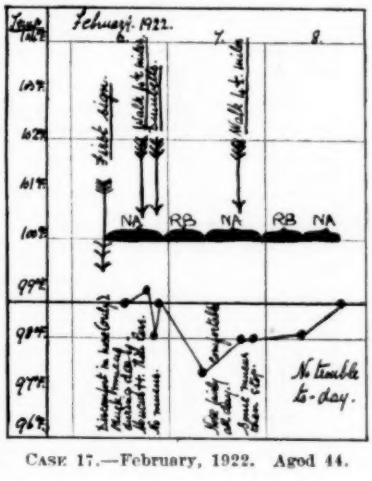
CASE 6.—June, 1912. Aged 35.

FIG. 5.



CASE 9.—November, 1913. Aged 36.

FIG. 6.



CASE 17.—February, 1922. Aged 44.

temperature is broken by such a slight happening as sitting up in a chair for three hours. This emphasises the necessity of complete inactivity of body and mind after high fever—a necessity further emphasised in the following case.

CASE 5 (Chart 3).—Here the fever reaction was brought on the first day by heavy digging in clay soil. I retired to bed when the temperature reached 102° F.; it rose a bit higher and then fell to about a similar point in the curve to which I have just drawn attention in the previous chart. At this point I took a dose of effervescent salts. The mere act of vigorous defæcation caused a rise of temperature of about half a degree.

This same point is more forcibly emphasised in the following case:—

CASE 6 (Chart 4).—Here, what in the two previous cases (2 and 5) is an unimportant blemish on the temperature curve, now becomes a definite prolonging of the illness. A return to work on the day following a temperature of 102° F. caused gradual rise totalling half a degree during the day's work, accompanied by the sensation of not being so well, which is a return of the malaise in slight degree.

CASE 9 (Chart 5).—This case is interesting from a different point of view. It represents a laryngitis only—i.e., a small lesion. The resulting rise of temperature is less, malaise was slight, and ceased about the highest point of the curve, although this occurred during the day's work, about 4 P.M. Though I was working for a special purpose till midnight, the temperature fell steadily, and dumb-bells at 1 A.M. only caused a rise of half a degree, and work next day did not cause any rise above normal. This shows that after a low fever abnormal rest is not essential. Cases 2, 5, and 6 show that rest is essential after higher fever.

CASE 17 (Chart 6).—We have now seen how a cold may be cured by exudation, fever, and pus acting in series. Secondly, how a cold may be cured by exudation and fever, cutting out the pus reaction. In this case we have a demonstration of how a cold may be cured by local exudation only, cutting by fever if the lesion is larger. Cure may be effected by these methods in 48 to 72 hours from infection, by taking reasonable outdoor exercise for one ot two hours on the first or second day as the case may be. If fever supervenes, with sufficiently marked malaise to indicate it, rest for one day in bed is essential. If cure is not effected by one of these reactions, pus formation will occur, and the cure will have to take its own time.

THE USE OF
COLLOIDAL GOLD IN THE TREATMENT OF NEURASTHENIA,
ALCOHOLISM AND THE MORPHIA HABIT.

BY D. E. STANFORD PARK, M.B., CH.B. EDIN.

DURING the last 25 years observers have been experimenting with gold salts in the treatment of neurasthenia and alcoholism and good results have been reported. Nevertheless, the use of gold has never become general, although it is vaguely recognised as a treatment and even cure for alcoholism. The bromide has been the salt generally used in epilepsy, alcoholic neurasthenia, and migraine, while the double gold and sodium salt has been given for alcoholism. Colloidal preparations are supposed to be more potent and certain in their action than the ordinary salts of metals, and for some time now I have used colloidal gold (Martindale's sterules) in the treatment of alcoholism and the morphia habit with encouraging results. I have given the drug four

times a day hypodermically, combined with various bitter tonics every two hours by the mouth. I append particulars of three cases of different type.

Drug Addiction.

CASE 1.—A doctor, 43 years old, was gassed early in the war, then developed asthma, and began to take morphia to relieve it. He had always been a fairly heavy and regular drinker, without obviously drinking to excess. When he came under treatment he was taking 8 to 10 gr. of morphia a day, and was drinking at least three-quarters of a bottle of whisky a day. He suffered greatly from insomnia and his appetite was poor; while his chest was wheezy and was giving him a good deal of trouble. His pulse was rapid and feeble and he had done no work for some months. I began treating him; at the end of the fourth day he had given up all alcohol, and by the end of ten days was only getting 1 gr. of morphia per day. Then, unfortunately, the treatment had to be stopped for three days owing to outside circumstances, but was then resumed; on the eighteenth day he was off morphia completely. Since then he has gradually picked up health and strength and is now in very fair health. His heart is still a little weak, and his pulse about 80, but his cardiac muscle is regaining its tone. He never had less than four hours sleep any night during treatment; he got up every day and took his food fairly well. Comparing his case with others treated on similar lines but without the gold injections, I consider that he suffered less restlessness, slept better, and had his general health better maintained than these other cases.

Alcoholism.

CASE 2.—A naval commander, aged 35 years, who had had much nervous strain during the war and was invalided with a pension as a neurasthenic. He had drunk a good deal for six or seven years, but to excess without intermission for the last two and a half years. He had had various treatments, all unsuccessful, and had probably not been teetotal for three days in the last three years. When he came under treatment he was unable to eat unless he had had a bottle of whisky; he slept very badly, and was very nervous and shaky, being within measurable distance of delirium tremens.

He had 30 gr. of chloralamide the first two nights, and after that he slept well; he said he was always a good sleeper when in good health. By the end of the fifth day of treatment he had given up all alcohol; by the tenth day he had lost all desire for it, and at the end of his month's treatment he was a new man, eating and sleeping as he says he has not eaten or slept for six years. He has lost all muscular tremor and has recovered his "nerve" and self-respect; signs of dissipation, which were very evident when he came under treatment, have almost entirely disappeared. He has had no desire at all for alcohol, has not had a drink for over 11 weeks, has safely gone through the Christmas festive season, and appears to be cured.

Neurasthenia with Alcoholism.

CASE 3.—This was a complicated case; the patient, a manufacturer's manager, aged 30, was a highly-strung neurotic man who had long been overworked, having made his way from 5*s.* a week to £3000 a year in 15 years. He came to me with a history of having had "brain fever" and nervous breakdown, associated with insomnia and hallucinations. He also admitted a certain amount of alcoholism, for which he had had treatment in two well-known institutions. Later I found that he had been a very moderate drinker until two years ago, but that during those two years he had drunk to great excess, the brain fever being in reality delirium tremens. Also, that he had been treated by morphia and hyoscine injections for which he constantly craved.

When he came under treatment he slept very badly, only two or three hours a night, and his appetite was small and capricious. He was exceedingly nervous and apprehensive about himself, having a new pain or symptom every time I saw him. His heart was dilated and irritable, his pulse was rarely under 110, irregular and thready. His urine contained a little albumin and he suffered from fits of acute depression and talked of suicide. He refused to have any nurse except his wife, and was a most difficult patient as he would not follow instructions. By the end of a week I had succeeded in getting him off alcohol during the day, but a few days later I found that he bullied his wife into supplying him with a small quantity of whisky at night. I persuaded him to have a female nurse and to let his wife go away, and he was then really teetotal for five days. His wife then returned, and he then asserted that he was cured. He said he would not give up one or two drinks a day, as they did him no harm and had nothing to do with his illness, and as he refused to obey the nurse any longer I gave up the treatment of his case.

While under treatment he was given from 30 to 15 gr. of trional every night for the first six days, and after that he received a few tablets of bicarbonate of soda, which he thought was a hypnotic, as he said he could not sleep without something of the sort. After the first 14 days he got no hypnotic, knew he got none, and yet slept from six to eight hours nightly, while his appetite became good—in fact, large. The albumin disappeared from his urine, also the large quantities of phosphates formerly present. He lost much of his mental depression, took to motoring and golf again, and showed more interest in social life generally. His wife considered him better than he had been for many months. Although this patient improved, he cannot be considered to be cured; I regard him as certain, sooner or later, to drift back to excess again.

Comparing these cases with others treated similarly, but without the gold injections, I think that, generally speaking, they came round more quickly and with less suffering, that natural sleep and appetite returned sooner, and that nervous symptoms disappeared sooner. As far as can be seen there have been no ill-effects from its use.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF FRACTURE OF THE ATLAS.

BY E. ULYSSES WILLIAMS, O.B.E., M.R.C.S. ENG.,
RADIOLOGIST, ROYAL FREE HOSPITAL, LONDON.

FRACTURE of the atlas is a rare injury, especially interesting in those cases where the lesion has not resulted in the death of the patient. Most of the recorded cases have been due to indirect violence, such as a fall on the vertex, but during the war large numbers must have occurred as the result of the direct violence of projectiles. Very few cases due to gunshot wounds have, however, been reported; in the War Office collection of spinal injuries there is not a single specimen showing fracture of the atlas, and only one of injury to the axis. This is certainly due to the fact that fractures of the upper cervical region, brought about by projectiles were almost always associated with damage to the spinal cord, causing instant death, and therefore did not come under the notice of the surgeon. Jefferson has collected records of 46 cases of atlas fracture, 21 of isolated atlas injury, and 24 where the atlas has been fractured along with one or more of the other cervical vertebra. Records of these 46 cases reveal the interesting fact that fracture of the atlas due to indirect violence is by no means either immediately or eventually fatal. Of the 21 isolated atlas fractures only 2 were killed outright, and only 7 died as the direct result of the injury. Of the 25 cases of atlas fracture combined with fracture of other cervical vertebræ, only 2 were instantly fatal and only 11 died as the direct result of the lesion. The line of fracture is usually through the posterior arch on one or both sides, and occurs through a "spreading" of the atlas ring from transmitted violence from the vertex via the occipital processes. The posterior arch, being the weakest part, gives way first. The following is a brief account of a case which has recently come under my observation.

J. S., aged 24, was wounded on Sept. 30th, 1917. A shell exploded a few feet away, blowing him up in the air and wounding him in the neck. He fell on his head on fairly hard ground. He was left for dead where he fell for four hours and was then picked up and taken to a C.C.S. There was a wound on the left side of the neck at the anterior margin of the sterno-mastoid on a level with the angle of the jaw. Fluids drunk came out of this wound, showing that the œsophagus was perforated, and a fistula persisted for three months. Both legs and the left arm were paralysed for some weeks, and the left arm still shows some paresis.

Present Condition.—All movements of the neck markedly restricted; the head only moves very slightly on the atlas.

X Ray Examination.—Shows a fracture of the upper three cervical vertebræ, which are now more or less ankylosed. The atlas has been fractured through the posterior arch on the left side. The points of interest are: Serious injury of the atlas, axis, and third cervical vertebra, plus a septic

wound of the œsophagus resulting in (1) survival, and (2) no permanent paralysis.

The man is now back at his pre-war work and, except for a stiff neck, little the worse. His chief complaint is that his doctors have told him "not to play football." He was evidently "born to be hanged"; and even this is now probably impossible owing to the atlo-axoid ankylosis.

A CASE OF TORSION OF THE HYDATIDS OF MORGAGNI.

BY C. E. SHATTOCK, M.S. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON, ROYAL FREE HOSPITAL, ETC.

TORSION of the hydatids of Morgagni would appear to be an extremely rare condition. One case has been recently described by G. H. Colt,[1] who mentions that there is one other case on record. Under these circumstances, a similar case upon which I operated in 1918 may be worth detailing.

History.—The patient, a male aged 14 years, came under my care on Sept. 30th, 1918. He gave a history of sudden onset of acute pain in the right half of the scrotum and groin five days previously. The pain had continued for five days; he felt sick on the third day; the bowels had acted normally. There had been one milder attack of pain on a previous occasion. At the age of 5 years an operation for inguinal hernia had been performed on the right side.

Examination.—The right testicle was found imperfectly descended, and appeared to be situated in the region of the external ring, where there was a tender, smooth swelling. The skin over this was normal in appearance. There was no evidence of a recurrence of the hernia. Temperature, 100° F.; pulse, 98. The case was diagnosed as one of torsion of an imperfectly descended testicle.

Operation.—After an incision had been made over the swelling in the groin, a sac was defined and opened; into this the body of the testis, which was quite normal, projected, the sac containing blood-stained fluid. Attached to the upper pole of the testis, close to the globus major of the epididymis, there were two pedunculated hydatids, lying close together. Each hydatid was the size of a pea, and blue-black in colour; the pedicle of each was twisted, and they were adherent to the parietal layer of the tunica vaginalis by recent lymph.

The hydatids were removed and the testicle was freed and fixed down in the scrotum by a stitch to the thigh. Recovery was uneventful.

Harley-street, W.

ADENO-CARCINOMA OF THE SMALL INTESTINE

IN A YOUTH OF 20; PERFORATION AND DEATH.

BY J. A. C. MACEWEN, M.B., C.M., B.Sc., F.R.F.P.S. GLASG.
ASSISTANT SURGEON, GLASGOW ROYAL INFIRMARY; VISITING SURGEON, GLASGOW DISTRICT HOSPITALS.

THE following case is of sufficient interest to merit record.

H. C., a youth of 20, was admitted in extremis to the Royal Infirmary on Sept. 30th at 4.30 P.M. He stated that he was regularly at work as a labourer in a blast furnace until 5 P.M. the previous evening, when he was seized with violent pain in the abdomen and persistent vomiting. He had no previous illness save occasional "cramps in the stomach." When admitted patient was in great pain and frequently vomited greenish-yellow matter. The abdomen was much distended, tympanitic all over (but liver dullness normal) and very tender. The temperature was 100° F., pulse 144, and respirations 36.

Immediate median laparotomy was performed, and the abdominal cavity found to contain copious free fluid and liquid fæcal matter. A tumour the size of a small walnut projected from the side of the upper ileum, and, on inspection, a small perforation was found at the base of the tumour, which was pedunculated, the pedicle being attached to the inside of the bowel. Apparently the tumour had caused ulceration of the bowel wall and had then been protruded through the aperture. A second similar pedunculated tumour was found inside the bowel about a couple of inches lower down. The abdomen was rapidly cleaned out and enterostomy performed, but the patient died a few hours later.

The tumour was examined by the Pathological Department and reported to be adeno-carcinoma

[1] British Journal of Surgery, January, 1922.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

THE COMMON COLD.

A MEETING of this section of the Royal Society of Medicine was held on March 28th, with Dr. G. NEWTON-PITT, the President, in the chair, when Dr. OLIVER HEATH read a paper on the Natural Cure of a Common Cold, which is published in full in the present issue of THE LANCET.

Discussion.

Dr. H. L. TIDY said that a rich reward awaited the man who found a certain cure for a common cold. Most medical people believed that the result of exercise was to produce auto-inoculation, and this he thought was a dangerous practice for patients. As an example of the risk which patients would incur, he propounded a case of a man who had a round of golf as a means of producing auto-inoculation. Supposing that at the fourteenth hole he had a temperature of 103° F., but found himself three up with four to play, he could not very well retire from the match; and even if he did, he would still be some distance from the club house, and further from his home. They had all seen fatal attacks of pneumonia incurred thus. He therefore thought that while auto-inoculation had an undoubted value, the risk was so great that he would hesitate to advise exercise for patients suffering from common cold.

Dr. E. P. POULTON described a cure for a cold which he had found very effective. It consisted in pouring down each nostril a mixture of one part vaseline and three or four parts of liquid paraffin as soon as the first symptom of a cold became manifest. By this treatment he had completely aborted his last cold, whereas his colds usually last three or four days.

The PRESIDENT expressed disappointment that there was no mention of vaccine treatment in Dr. Heath's paper, since it was still an open question whether vaccines were useful for prevention or cure of colds.

Dr. AGNES SAVILL had personal experience of vaccine treatment, and concluded that to be of any use the vaccine must be autogenous.

Reply.

Dr. HEATH said that the suggested walk should be given up as soon as there was any feeling of malaise. It was quite unnecessary to take the temperature. In the days when he aimed at producing fever, he personally had never got an overdose of auto-inoculation. As regards immunity after a cold, personally he rarely had a second attack for many months. On an average he had about one cold a year.

OBSERVATIONS ON CASES INVOLVING DISORDERS OF SECRETION IN THE UPPER ALIMENTARY TRACT.

Dr. IZOD BENNETT read a paper by himself and Dr. E. C. Dodds on this subject. The methods that he had employed were: (1) fractional gastric analysis, and (2) the estimation of the acid and alkali in the gastric and duodenal secretions respectively, by estimating the tension of the alveolar carbon dioxide.

Difficulty of Estimating True Gastric Secretion.

No true estimate of the total gastric secretion had yet been made apart from the presence of a gastric fistula, since the quantity and nature of the gastric contents were affected by the passage of some part of them through the pylorus, and by regurgitation of the outgoing duodenal contents. Further, unless experiments were made on a fasting subject, there was always some food remaining in the stomach from the last meal. Unless the stomach was deliberately emptied at the beginning of the experiment and at the end, even the total quantity of HCl secreted was not ascertainable by ordinary methods. The difficulty of

estimating duodenal secretion was even greater, since only a small quantity of recent duodenal juice could be recovered by means of the duodenal tube.

Correspondence Between Gastric Secretion and Alveolar CO_2 Tension.

It had been found by Dr. Dodds that the tension of the alveolar carbon dioxide rose after a meal and fell to the normal level after about one and a half hours, this rise corresponding quantitatively with the amount of acid secreted by the stomach. After two and a half hours there was a fall below the normal, due to the alkaline secretion taking place in the intestine. Tube experiments carried on simultaneously definitely proved that the rise in the tension of alveolar carbon dioxide (CO_2) corresponded with the secretion of gastric hydrochloric acid (HCl). To prove that the fall in the tension of alveolar carbon dioxide was due to the alkaline duodenal secretion, they had passed a tube into the duodenum. When food was injected through this tube (thereby avoiding the stomach), the alveolar carbon-dioxide (CO_2) tension fell without any preliminary rise. When the tube was pulled into the stomach and food again injected, the alveolar carbon-dioxide (CO_2) tension exhibited the usual rise and fall.

Explanation of the Correspondence.

The explanation of this change in the alveolar carbon-dioxide (CO_2) tension was that the gastric and intestinal secretions came direct from the blood. When acid was removed from the blood, the respiratory centre was immediately affected by the altered hydrogen-ion content. The acid taken up by the gastric secretion was replaced by carbon dioxide, so that the blood held a higher carbon dioxide content, and the alveolar carbon-dioxide tension (which was in direct proportion to the blood carbon-dioxide (CO_2) content) immediately rose. Other observers had, however, failed to find any change in the carbon-dioxide content of the blood during gastric and intestinal digestion. The explanation of this was that these workers had estimated the carbon-dioxide content of plasma only; when Dr. Dodds used whole blood for the estimations there was a rise in the carbon-dioxide content which could be easily estimated. It was found that it was the corpuscles, and not the plasma, that held the increased amount of carbon dioxide. Dr. Bennett showed a number of curves of gastric analysis from 100 normal students showing a rise of hydrochloric acid (HCl) to a maximum at one to one and a half hours after food, with a fall to normal in two to two and a half hours. The alveolar carbon-dioxide tension curves exhibited a similar rise and fall.

Reischmann's Disease.

They had employed the alveolar carbon-dioxide tension to investigate cases of true gastric hypersecretion (Reischmann's disease) which, in their experience, was a rare condition. This disease was difficult to discover by ordinary methods of gastric analysis—the climbing type of hydrochloric-acid curve, held by the French to be typical of Reischmann's disease, might be produced by stenosis of the pylorus without any true hypersecretion. In one case of true Reischmann's disease, the alveolar carbon-dioxide tension rose 16 mm. in place of the normal 4 mm. Other evidence of large gastric secretion was the presence in the stomach three hours after a meal of 460 c.cm. of nearly pure gastric juice with a high hydrochloric-acid content, and an almost total absence of food. This man was perfectly normal, and suffered no digestive derangement. Only one of three such cases presented any symptoms at all, and these were easily cured by atropine.

Atropine as a Preliminary Wash-out.

In order to determine whether hypersecretion of alkaline intestinal secretion (which mainly comes from the pancreas), they had employed atropine to wash out the stomach, and thus inhibit gastric secretion. When this was done, it was found that there was an immediate fall in the level of the alveolar carbon-dioxide tension, followed by the usual fall due to the secretion of alkali in the intestine. Also it was found that washing out the duodenum produced a rise in the alveolar carbon-dioxide tension. From this it was inferred that there is normally a constant secretion of acid gastric juice and of alkaline pancreatic secretion, either of which is inhibited by atropine. The normal alveolar carbon-dioxide tension was found to be very low in certain cases of diabetes, particularly those which exhibited a ketosis. This, they suggested, was due to the constant dribbling away of alkaline pancreatic juice, and they inferred that, contrary to what was generally thought, the pancreas was steadily pouring away secretion in diabetes. On this theory it must be supposed that after a meal the blood received an over-dose of sugar. In support of this theory Dr. Bennett pointed out that it was rare to find any destruction of the pancreas at post-mortem examinations of diabetics. In one case they had found a condition of gastro-pancreatic hypersecretion, but in this case there was no sign of diabetes. The condition of gastric achylia (in which there was a total absence of the normal rise of alveolar carbon-dioxide tension, although the ordinary fall occurred) was found to be moderately frequent (4 per cent. of normal students, and 6 per cent. of students, if those with minor digestive troubles were included). They had found it difficult to investigate cases of pancreatic hyposecretion, as the patients were generally too ill. In one case there was the ordinary rise in the carbon-dioxide curve, followed by a very small fall. Gastro-pancreatic hyposecretion was, however, fairly common. The most typical cases occurred in pernicious anæmia, and it had been suggested that the gastric hyposecretion was a precursor of the blood disease, owing to the lack of the normal bactericidal acid. Dr. Bennett and Dr. Dodds, however, considered that the gastric condition was secondary to the blood condition, since a similar picture was seen in any profound anæmia.

SECTION OF UROLOGY.

RENAL INFECTIONS.

A MEETING of this section of the Royal Society of Medicine was held on March 30th, with Sir THOMAS HORDER, the President, in the chair, when Mr. KENNETH WALKER read a paper on Renal Infections, with an account of experimental work on the ascending route, which we publish in full in the present issue of THE LANCET.

Discussion.

The PRESIDENT said that although Mr. Walker had worked out his thesis with great care, some of his inferences were perhaps open to criticism. Was, for instance, the distribution of organisms in a section indicative of the route by which they attained access to the part? In the ordinary *Staphylococcus aureus* septicæmia a distribution of organisms in the perinephric tissue similar to that described by Mr. Walker was to be seen. The view ordinarily held was that the organisms were delivered by the blood-stream to the kidney, and thence made their way to the capsule and the perinephric tissue. In septicæmia caused by *S. aureus*, the perinephric tissue was frequently more affected than the kidney, and similarly the pleura was often more affected than the lung tissue proper, although the pleura was known to be secondarily affected from the lung. Was it not also possible that the infection in Mr. Walker's second case (following cervical tear) was hæmatogenous? In spite of these criticisms, there could be no doubt that Mr. Walker's paper constituted a solid addition to our knowledge of urinary affections.

Dr. F. H. TEALE said that experimental work performed by Dr. D. Embleton and himself confirmed Mr. Walker's findings. When the urethra was infected with staphylococci the picture was complicated by thrombosis and abscess formation in the perinephric fat. He thought that there was a very definite distinction between hæmatogenous and ascending infections.

Mr. FRANK KIDD expressed admiration for Mr. Walker's experimental work, although his own clinical experience did not tend to confirm Mr. Walker's conclusions. In the case of urinary tuberculosis, for example, Mr. Walker had stated that had the patient lived the ascending infection of the left ureter would have reached the left kidney. This would have produced bilateral renal tuberculosis, which, in Mr. Kidd's experience, was extremely rare. It might be possible for tubercle bacilli to reach the capsule thus, but he doubted whether they ever reached the kidney cortex by the ascending route. Mr. Walker's work had an important clinical application in anuria after prostatectomy, for by decapsulation of the kidney one might cut short a blood infection via the lymphatics.

Dr. D. EMBLETON said that in the experimental work performed by Dr. Teale and himself the urethra was inoculated with very large doses of tubercle bacilli. Under these circumstances tuberculosis occurred in the kidney substance, but it was possible that this might not apply to renal tuberculosis in human beings.

Mr. CYRIL A. R. NITCH congratulated Mr. Walker on his paper, and added that he had recently seen clinical evidence which pointed in the same direction. In four cases he had seen prostatic abscess and perinephric abscess in the same individual and caused by the same organism, although appearing at different times.

Reply.

Mr. WALKER said that his reasons for believing that the infection in the gynæcological case was an ascending one were that the tear occurred on the right side of the cervix, was followed by a right parametritis, and later by infection of the right kidney. At operation the œdema was most marked at the lower pole of the right kidney and the upper part of the right ureter. He agreed with Mr. Kidd as to the probable value of decapsulation for prostatic cases exhibiting anuria, and thought that in many cases where death after prostatectomy was attributed to renal inefficiency death was in reality due to sepsis.

Mr. A. CLIFFORD MORSON and Mr. KIDD each showed pyelograms of horseshoe kidneys.

ROYAL MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

AT the last meeting of this Society,

Prof. W. K. HUNTER showed the temperature charts from two cases of syphilis of the liver.

Mr. DONALD DUFF made a communication on

The Treatment of Ununited War Fractures,

with special reference to bone-grafting, and illustrated by lantern slides. Mr. Duff's points may be summarised as follows: 1. At least four months should elapse after all sinuses have healed to enable the tissues to deal adequately with any encapsuled micro-organisms. During the waiting period massage must be applied and suitable apparatus used to prevent deformity. Immediately before operation a short course of deep massage should be given, to test whether there is still latent sepsis. 2. Scar tissue should be ionised, or if extensive excised, and the gap filled by pedicled or tubed skin-grafts. 3. Deformities should be corrected by plaster or apparatus before operation. 4. The most rigid aseptic technique must be adopted in operating. 5. Bone scar and interposed fibrous tissue must be removed thoroughly, in one piece if possible. 6. The inlay graft gives the best results, and must be large and have good contact. 7. Stepping or comminution gives the best results in humerus cases. 8. The limb should be kept rigid in the optimum position as regards strain on the graft for two or three months, followed by physiological work to develop growth of new bone.

Dr. ADAM PATRICK read notes on two cases of

Myelogenous Leukæmia Treated by X Rays.

The first case was treated twice weekly for six weeks by applications over the spleen. The dose given was ½ Sabouraud pastille through a 1 mm. filter. Between April 5th and June 1st the leucocytes had fallen from 500,000 to 50,000. A further course was given in July–August and again in September–October. In October–November the thighs were treated with two exposures weekly, and in December–February a further course was given over the spleen. The leucocytes varied from 50,000 to 90,000. About six weeks after the last course the patient became less well and deterioration of his blood was observed. He died towards the end of May. The second case showed 560,000 leucocytes before treatment was begun. On Nov. 20th rays of a hardness equalling a 9-inch spark gap, dose 3 H, were applied over the spleen only through a filter of 4 mm. of aluminium. Six applications were made over the front and seven over the back of the spleen in the course of six weeks, and by Jan. 28th the leucocytes were reduced to about 6000. In the first case the large size of the spleen persisted, but in the second case there was a great diminution in its size.

CARDIFF MEDICAL SOCIETY.

EXHIBITION OF CASES AND SPECIMENS.

A CLINICAL meeting of this Society was held on March 14th, with Dr. F. BUCKHAM, the President, in the chair.

Mr. H. G. COOK showed two specimens, consisting of ileo-ileal and ileo-colic intussusception, removed from a man aged 31 who suffered from chronic intussusception. An irreducible ileo-ileal intussusception was found lying deep in the pelvis. End-to-end anastomosis was performed. Following a return of the symptoms in October, 1921, a large ileo-cæcal intussusception, reaching as far as the splenic flexure, was, with some difficulty, reduced. In November the cæcum and ileum were sutured to the posterior abdominal wall to prevent recurrence, but laparatomy was called for for the third time in December, 1921, when an irreducible ileo-colic intussusception, reaching to the middle of the transverse colon, was disclosed. The cæcum and ascending colon, with almost eight inches of ileum, were removed and the divided ends of the gut closed and the continuity of the bowel restored by lateral ileo-colic anastomosis. Since then the symptoms have been entirely relieved; the patient, who was in a deplorably wasted condition, has put on over a stone in weight. The last two intussusceptions were apparently caused by a fibrous polypus of the ileum.

Mr. C. DE W. GIBB showed a specimen of cerebral abscess secondary to bronchiectasis. The abscess, which was situated in the right temporo-sphenoidal lobe, was almost the size of a walnut and possessed a wall of granulation tissue at least one-eighth of an inch thick; the right lung showed in the lower lobe several rather large bronchiectatic cavities, filled with fœtid pus. The patient had been admitted to hospital following an accident (fall down the hold of a ship), but his symptoms and signs pointed to a cerebral condition, not necessarily connected with the accident; in fact, it appeared, from the thickness of the abscess wall in the brain, that the abscess might have been present for at least six weeks and that the relationship of abscess to accident was of the nature of cause and effect. From the pus in the abscess the pneumobacillus of Friedländer was isolated in pure culture.

Dr. J. C. GILCHRIST showed: (1) A case of bronchitis of several years' standing, a result of gassing; no localising lung signs. Tubercle bacilli were present in sputum. (2) A case of tubercle of lung, successfully treated by artificial pneumothorax and graduated exercise. Needle-track abscess occurred, which had subsided after aspiration.

Mr. J. W. GEARY GRANT showed: (1) A left kidney with wedge-shaped caseating masses in the upper half, removed from a man aged 39, who for eight months had suffered severely from polyuria, dysuria, and extreme diurnal and nocturnal frequency. The cystoscope showed a left "golf-hole" ureter, with swelling and injection of margins and several small tubercles on the outer and upper side. On one occasion jets of

pus were seen to come from this ureter, but subsequently the secretion ceased completely from this kidney. Within three or four weeks of nephrectomy the symptoms of cystitis cleared up. (2) Specimen of pylorus, pyloric canal, and pyloric antrum removed from a woman of 69 years of age. It showed great thickening of the pylorus extending along the antrum and adjoining portion of stomach. In the lumen of the pylorus was a papilloma, the size of a large pea, and four others were found growing from the mucous membrane in the region of the pylorus. In this case a preliminary gastro-jejunostomy was done, followed five weeks later by partial gastrectomy. At the operation no glands were found and it was not evident that the condition was a malignant one; the previous gastrectomy limited the amount of stomach that could be removed. The section of the cut margin showed carcinoma cells invading the muscularis from the base of one of the projecting polypi and extending in groups into the subperitoneal tissue. Sections of the stomach wall near the incision for removal showed a condition of scirrhous carcinoma in the submucous coat, and groups of carcinoma cells lying in the connective tissue of the circular muscle.

Mr. CORNELIUS GRIFFITHS showed a case of an aged man, the subject of diffuse molluscum fibrosum, involving the skin of all parts of the body, including the palms of the hands and the soles of the feet.

Prof. E. EMRYS-ROBERTS and Dr. H. A. HAIG showed specimens from a case of primary pulmonary tuberculosis followed by tuberculous meningitis. Both lungs showed extensive apical involvement by numerous tubercles, some of these already breaking down and forming small cavities, the apices of the left upper and lower lobes were all affected, the right mid-lobe being the only one to escape. The bronchial glands showed no signs of involvement. The brain showed a thick yellowish exudate over the ventral and dorsal aspects of the pons and peduncles, and a few tubercles were found on some of the smaller vessels in the sulci between the convolutions round the Sylvian fissure. The cerebro-spinal fluid removed post mortem from the brain showed rather numerous tubercle bacilli, a relative polymorphonuclear increase, and a marked relative lymphocyte increase. A few submiliary tubercles were found in sections of the liver.

Prof. E. J. MACLEAN showed a case of a large semi-pedunculated fibroma removed from the right labium majus of a patient six months pregnant. Microscopically it was seen to be almost a pure fibroma, only a very few involuntary muscle fibres being present here and there. Removal had been undertaken in order to obviate the condition causing obstruction at labour, and, for a similar reason, the method of removal had been by a linear incision over the summit of the tumour, followed by shelling out so that redundant material would be left to compensate for contraction in healing.

Prof. A. W. SHEEN showed radiographs of three "chip" fractures of the phalanges, two in the fingers and one in the toe, and described the cases. He pointed out that such fractures were usually not detected without the use of X rays, when they could probably be found in many cases of severe sprain or dislocation. Occasionally such a fracture is associated with osteo-arthritis. The disability lasts a long time and cases occasionally have a medico-legal interest. The treatment was discussed, immobilisation in plaster of Paris for the majority of cases of finger injury being recommended, if the patient will consent.

Mr. S. ALWYN SMITH showed end-results of bone-grafting. (*a*) Gunshot wounds of both forearms resulting in a 3-inch gap in each radius, at the junction of the upper 3/4 with the lower 1/4. A tibial autogenous graft was used for each arm. The inlay method was used at each end in one arm, and, in the other, the proximal end was inlaid, while the distal end was pegged into the cancellous bone of the expanded lower end of the radius. Fixation was by soft iron wire. Results two and a half and two years after operation: radiographs show thickening of the graft and formation of new cortex. (*b*) Ununited fracture lower end of tibia of 18 months' duration. Operation for freshening ends and fixation by wire loops failed. Bone-grafting by means of "slide inlay" resulted in firm bony union. (*c*) End-results of tendon transplantation for irremediable musculo-spiral and posterior interosseous nerve lesions. Four cases. For complete musculo-spiral lesions the pronator radii teres was transplanted to the ext. carpi rad. long. et brev., the palmaris longus to the ext. oss. meta. poll. et brev. poll., and the flexor carpi radialis to the ext. com. dig. et longus poll. The flexor carpi ulnaris is left to flex the wrist and to prevent any radial deviation of the hand, on account of the transplants being on the radial aspect of the forearm.

Dr. G. I. STRACHAN showed (*a*) a case of anencephaly, in which the placenta was adherent to the base of the skull by a thick amniotic adhesion, associated with stunting of the right hand. (*b*) A section of the uterus with placenta in situ removed post mortem from a patient who died, undelivered, of eclampsia. The placenta was extensively occupied by hæmorrhages, and bleeding had occurred also between the placenta and uterine wall and had infiltrated, to some extent, the uterine muscle. Clinically, profuse ante-partum hæmorrhage was noted. The effects of ante-partum accidental hæmorrhage were referred to, and the relationship between this and placental infarction and albuminuria and toxæmia was discussed.

Mr. J. W. TUDOR THOMAS showed a case of hysterical amblyopia. The patient was an ex-soldier, who was gassed in 1918, and had an attack of cyclitis in his left eye. Since then he had been unable to see with the left eye, though no cause could be found for the blindness. Recently, on examination, the pupil reacted normally, and, on applying a prism test for malingering, the vision in the left eye was found to be 6/18. When it was explained to the man that he could see with that eye, he became very excited, and seemed to be overcome with joy. He had been tested previously for malingering and had given satisfactory answers. The case was considered to be a true functional monocular amblyopia.

LIVERPOOL MEDICAL INSTITUTION.

A MEETING was held on March 23rd, with Dr. J. HILL ABRAM, the President, in the chair.

Dr. FRANK H. BARENDT related details of a case of dermatitis exfoliativa in a male aged 30 who suffered from psoriasis since 8 years old, and acquired syphilis three and half years ago. He was free from outward manifestation of syphilis, Wassermann test "slightly positive," but he had psoriatic efflorescences on the scalp and right flank. He was treated intravenously with a single dose of 0·9 g. neokharsivan and locally chrysarobin ointment was energetically applied. One week later the whole of the integument reddened, the epidermis fissured in all directions and was completely shed. At the end of three weeks the clinical picture of pityriasis rubra was displayed. Under oily lotions the skin gradually resumed its natural colour and at the end of a month desquamation ended. There was no gastro-intestinal disturbance, the urine was free from albumin and sugar, and although he suffered great discomfort and slight fever during evolution of the rash, he was never seriously ill. Dr. Barendt inclined to the view that it was a case of inveterate psoriasis passing into pityriasis. The patient was now well and free from any skin affection, a state he never remembered to have enjoyed since early childhood.

Dr. I. HARRIS read a short paper on the Circus Movement in Fibrillation and Flutter. He pointed out that the exact method used in physical science was often unsuitable for research in pathological biology, since the latter was too complicated and too many-sided to find a true expression in a simple formula.

He regretted that the problem had been approached from the electrical and not from the clinical and pathological point of view.

Dr. JOHN HAY read a paper on Cardiac Failure with special reference to quinidine sulphate in auricular fibrillation. He emphasised the importance of recognising in each case the underlying cause for the cardiac failure—toxæmia, hypertension, myocardial fibrosis, the onset of fibrillation of the auricle. He questioned the value of many of the so-called cardiac tonics, and pointed out that a too implicit belief in the power of these tonics was a danger in that it led to the neglect of other and valuable methods of treatment in the management of the case. Quinidine sulphate appeared to him to be a valuable drug with limited application. Its administration necessitated careful supervision and a clear recognition of the risks entailed.

MANCHESTER MEDICAL SOCIETY.

A MEETING of this Society was held on March 22nd, Sir WILLIAM MILLIGAN, the President, being in the chair.

Mr. R. R. KERR read a communication on

The Operative Treatment of Injuries to the Fingers.

He urged the importance of simple prophylaxis of sepsis in workshops. Where, however, the lesion has become septic and has involved the pulp and the end of the phalanx, the incision should never be made in the centre of the pulp down to the bone but at one or even both sides just behind the nail. By this means the pus may be evacuated, involved bone dealt with, and the valuable pulp saved. Another important point was that it is hardly ever justifiable to splint a badly injured finger, since if splints are used the digit may become stiff in the extended position. It was far better to let the injured finger heal and become stiff, if that could not be helped, in the semi-flexed position, which was that of greatest usefulness. If a finger was so damaged that its function could not be restored it should be amputated at once. With regard to amputations, the principle of saving as much as possible was a dangerous one. By far the most important finger was the index. If the terminal phalanx of this digit were lost but the stump well covered and the other joints mobile it could still do most of its work; but if the stump included only the proximal phalanx or the metacarpal bone it could not do the work of the index; moreover, no other finger could replace it because of the awkward stump. If, however, the index were now amputated to the base of the metacarpal bone and the tendons cut well back, the thumb and the middle finger rapidly closed in, and the middle finger could easily be taught to do the work of the lost index. The same point held with the other fingers. If the metacarpal bone were removed the other fingers closed in, and for practical purposes full function was restored.

Mr. H. PLATT read a communication on

The Operative Treatment of Osteo-Arthritis of the Hip-joint.

He discussed the various operative measures applicable in the treatment of mono-articular osteo-arthritis of the hip-joint, and pointed out that although this affection was most frequently encountered in middle age it was by no means limited to this period. In his experience three broad clinical types could be distinguished: (1) Infective, (2) traumatic, and (3) secondary—where the active arthritic process was superimposed on a hip-joint which in early life had been the seat of a deformed process, such as pseudo-coxalgia or arthritis deformans juvenilis. In the symptomatology of osteo-arthritis of the hip the early stage with its characteristic severe sciatic pain and the later stages with the progressively increasing fixation of the joint were briefly described. Although correct mechanical treatment in the early stages would be likely to render unnecessary any subsequent major operation, yet in practice the surgeon was too often confronted with the fully matured arthritis and its consequent serious disablement. Four classes of operative procedure were considered: 1. Manipulation under anæsthesia, suitable for picked cases with arthritic changes of a moderate degree. 2. Removal of osteophytic deposits. The operations in this class had a limited application inasmuch as such bony deposits were rarely the prime cause of the pain or limitation of mobility. 3. Arthrodesis—surgical fixation of the painful hip-joint—was ideal in theory but difficult to achieve, and constituted an operation accompanied by a good deal of shock. For this reason, and owing to the necessity of prolonged fixation and protection from weight-bearing, the operation was suitable only for younger individuals. 4. Excision of the head of the femur. The value of this operation was emphasised and in particular its suitability for older patients; the operation as performed by Mr. Platt was reconstructive in type. A detailed account of the technical steps involved was given.

Mr. G. JEFFERSON read a paper on

The Operative Treatment of Depressed Fractures in Infants and Children.

He urged that the old practice of leaving this condition to nature was wrong. It was often impossible to tell in a child what was the condition of the brain under the fracture. Operation should always be carried out, and consisted either in elevating the depressed area through a small opening, or where this was not possible in excising the portion of skull affected and placing it back in the reversed position.

Mr. ARNOLD JONES read a communication on

Nasal Obstruction in Infants During the First Year of Life.

The commonest causes of this condition were: (1) Congenital occlusion of the nostrils; (2) the temporary presence of mucus secretion in the nose and engorgement of the nasal mucosa during the first few days of life; (3) congenital syphilis; (4) mongolism and (5) adenoids, the commonest. The symptoms usually seen were: Inability to suckle efficiently, snoring and suffocation attacks, persistent cough, and nasal discharge and convulsions. As to the differential diagnosis, congenital occlusion of the nostrils was very rare. A probe would reveal the situation and completeness of the obstructing web. Temporary engorgement of the nasal mucosa was at once relieved by a weak adrenalin spray. Congenital syphilis usually presented constitutional symptoms, the W.R. being positive. A mongol was recognisable by his typical appearance and adenoids were diagnosed by excluding the other causes. The treatment varied with the cause. In the case of adenoids, by far the commonest cause, surgical removal was simple, efficient, free from risk, and gave excellent results. Of 58 cases operated on from February, 1919, to the end of 1921, 23 had been recently investigated, and the results found to be excellent. No anæsthetic was used by Mr. Jones. The youngest infant operated on by him was under 1 month old.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on March 10th, Sir W. I. DE C. WHEELER in the chair.

The PRESIDENT showed a case of arterio-venous aneurysm of the subclavian vessels, and described others that had recently come under his observation. Although a spontaneous cure is rare, there being only two in a series of 447 cases tabulated by Callender, the speaker pointed out that the condition was not incompatible with long life. So far as he could gather from recorded literature, results of operation on arterio-venous aneurysms of the subclavian vessels were very discouraging, the procedure being attended with great difficulty. The proximal dilatation of the artery, the enlargement of the heart, and the general slowing of the pulse in a number of

cases were points of interest. In the neck the veins often did not dilate, as the column of blood pushed aside by the arterial inflow found a ready escape through channels equally large with a negative pressure.

Intrathecal Tumour of the Cervical Spinal Cord.

Mr. W. PEARSON described a case upon which he had operated for this condition. The patient was an unmarried woman of 50, with a history of intermittent pain in the right side of the neck over a period of four years. There were never any other nerve symptoms save occasional attacks of wry-neck. In February, 1921, examination showed that the pain was strictly confined to the area of distribution of the anterior primary divisions of the second, third, and fourth cervical spinal nerves on the right side, and the case was regarded as one of cervico-occipital neuralgia. As the posterior primary divisions of the nerves were not involved, it seemed probable that a peripheral cause might exist, and consequently a block dissection of the posterior triangle of the neck, with high division of the affected nerves, was performed. The pain ceased for two months and then recurred. She returned to hospital again in July and again no other nerve symptoms were present. In August, a laminectomy was performed with the intention of dividing the nerve-roots. On opening the dura a dark-red tumour was seen closely applied to the right side of the cord, displacing the latter to the left. It lay in front of the posterior nerve-roots and extended up through the foramen magnum and downwards into the spinal canal. The laminæ of the upper six cervical vertebræ were removed without reaching the lower end of the tumour, but the latter was then capable of enucleation after the third and fourth posterior roots were divided. It subsequently measured 6·5 by 2·5 by 1·5 cm., and the pathological report was that of spindle-celled sarcoma. The patient's progress was satisfactory at first, but later on signs of compression made their appearance, and the patient eventually died more than six weeks after operation. No cause of death could be determined at autopsy, the brain, spinal cord, and meninges appearing normal. The experience in this case suggested: (1) That in cases of severe persistent pain of segmental type with negative neurological findings, lumbar puncture may aid diagnosis. (2) That in such cases exploratory laminectomy should be selected in preference to peripheral neurectomy in the first instance. Particularly remarkable and inexplicable was the fact that no pain was referred to the cutaneous branches from the posterior primary divisions of the affected nerves.

Mr. J. T. MCCULLAGH and Mr. M. DOCKRELL showed a number of patients fitted with modern artificial limbs and surgical appliances. The demonstration was illustrated by Mr. MCKIE, instructor to the limbless at the Special Surgical Hospital, Blackrock, and by his pupils.

CHELSEA CLINICAL SOCIETY.—A meeting will be held on Tuesday, April 11th, at 8.30 P.M., in the Club Room, St. George's Hospital Medical School, London, S.W., when Mr. J. Barcroft, F.R.S., reader in physiology at the University of Cambridge, will read a paper on the Physiology of Life in the Andes, based upon recent personal experience.

THE LATE PROF. W. B. BOTTOMLEY. — Prof. Bottomley, well known for his researches into the nutrition of plants, died at Huddersfield on March 25th in his fifty-ninth year. He was educated at the Royal Grammar School, Lancaster, and King's College, Cambridge, and for some time was science tutor and lecturer on biology at St. Mary's Hospital Medical School. Later he became professor of biology at the Royal Veterinary College, St. Pancras. He founded the South-Eastern Coöperative Agricultural Society, and was hon. secretary of the Agricultural Banks Association and of the English Land Colonisation Society. A short account of his work in connexion with auximones, which in plants are comparable to vitamins to animals, and which are associated with bacterised peat, was published in THE LANCET, 1915, vol. ii., p. 876.

Reviews and Notices of Books.

THE VENEREAL CLINIC.

The Diagnosis, Treatment, and Prevention of Syphilis and Gonorrhœa. By Several Writers. Edited by ERNEST R. T. CLARKSON, M.A. Cantab., M.R.C.S., L.R.C.P., Chief Clinical Assistant, Urogenital Department (Males), London Hospital. With an Introduction by Sir SQUIRE SPRIGGE, M.D. London: John Bale, Sons and Danielsson, Ltd. 1922. With 11 coloured and 9 other plates. Pp. xiii. + 477. 25s.

ONE rises from a careful perusal of this manual with a real sense of its solid usefulness. The editor has shown a wise discrimination in the choice of his collaborators, and has entrusted each section to men well able to deal with their subject-matter. Each of them is, or has been, closely associated with a venereal clinic, and consequently each writes with a constant regard to the innumerable details of administration or therapeutics associated with such a department. This confers upon the manual a special value.

The book is divided into two parts—medical, and sociological and administrative. The medical part falls into five sections—viz., Syphilis, Gonorrhœa in the Male, Gonorrhœa in the Female, Gonococcal Affections of the Eye, and Bacteriology, which deals with the laboratory diagnosis of syphilis and gonorrhœa. The sociological part is devoted to such matters as venereal disease in the community, the prevention of venereal disease, the relation of the medical man to patients in a venereal clinic, legislation and professional aspects. There are, further, valuable appendices dealing with such matters as the equipment of the venereal clinic and restriction of prostitution, and there is a short but useful bibliography.

The section on syphilis is by Dr. Malcolm Simpson and Dr. Henry C. Semon, and deals with the subject in a concise but thorough manner. Particular emphasis is laid on the differential diagnosis by clinical examination between syphilitic eruptions and eruptions of an innocent nature such as pityriasis rosea. This appears to us a matter of very great importance, for many V.D. officers have had no special training in dermatology and are sometimes at a loss when faced by a non-syphilitic rash. Gonorrhœa in the male is dealt with by the editor, and there is an extremely valuable chapter on the urethroscope and its use by Mr. Wyndham Powell. The chapter on metastatic gonorrhœa, by Dr. Simpson and Mr. Clarkson, is one of the best résumés of the subject we have read. We do not know which of the collaborators has written the excellent chapter on the Standard of Cure in Gonorrhœa; it provides much food for reflection, while on the whole it presents the commonly accepted views. Dr. Morna Rawlins writes capably on gonorrhœa in the female, and Dr. Alex. B. Roxburgh is responsible for a careful chapter on gonococcal affections of the eye. Dr. P. N. Panton writes, as always, in an illuminating manner on laboratory diagnosis. Most of the sociological and administrative section comes from the pen of the editor; it deals with many topics on which all V.D. officers should be well informed.

We have every confidence in recommending this manual. Covering so wide a field, it is remarkable that the volume has not swollen out into a bloated text-book. It is called a manual, and it is one: easy to hold, easy to read, and well designed to be a handy vade-mecum for any officer of a venereal clinic. Well printed, on good paper, it is also admirably illustrated. The general practitioner and student will find it valuable, and the officer in charge of a V.D. clinic will find inspiration and help in its pages.

THE TRIAL OF STEINIE MORRISON.

Edited by H. FLETCHER MOULTON, B.A. Cantab., of the Middle Temple, Barrister-at-Law. London and Edinburgh: William Hodge and Co., Ltd. Notable British Trials Series. 1922. Pp. 313. 10*s*. 6*d*.

Leon Beron, a middle-aged Russian Jew living in Whitechapel, was murdered in the small hours of Jan. 1st, 1911, on Clapham Common. "Steinie Morrison," whose true name and nationality appear to have been in doubt, a burglar and ex-convict, was convicted before Mr. Justice Darling on March 15th and sentenced to death. He was reprieved, no doubt, as Mr. Fletcher Moulton suggests, because though the jury had had before them ample evidence to justify their verdict, there was nevertheless an element of doubt regarding his guilt. He has recently died protesting his innocence to the end. Whether he was guilty or not, his leading counsel, Mr. E. Abinger, put up a strenuous fight for him.

The trial has presumably been regarded as notable owing to the numerous questions of law and fact discussed. As far as the medical interest of the case is concerned, there could be no question that Leon Beron was brutally murdered, having been beaten over the head and then stabbed again and again in the body, and, except as showing the probable nature of the weapons used, the details of the injuries inflicted involved no dispute. Medical men liable to be called as witnesses in such cases may, however, usefully note the importance assumed in the course of the trial by some of the less obviously essential details of the condition of the dead body. There was keen cross-examination, for example, as to the amount of blood likely to have fallen on the murderer's clothes, in striking the head of the deceased, in stabbing him, and in dragging him from the spot where he fell. The condition of the contents of the stomach as showing the nature of the meal last eaten, and the time which had elapsed since it was consumed, were also among the points raised, and the origin of two S-shaped incisions on the face was questioned. The greatest care and the most minute attention to every point, whether it seems at first to be material or not, are demanded of witnesses upon whose evidence a man's life, or the due vindication of justice, may depend—that is the lesson for medical men from Morrison's trial.

Mr. Fletcher Moulton contributes a useful introduction to the volume, but not so full a narrative of the crime and its circumstances as we have become accustomed to expect in volumes of this excellent series. He might, moreover, note that strict accuracy as to names is desirable in any book purporting to be a historical record of the trial of a criminal. Lord Walsingham was Mr. de Grey (not Gray) when he was a police magistrate; and the late Director of Public Prosecutions used the name of his stepfather, the great comedian, being known as Sir Charles Mathews (not Matthews). Both these slips occur in one page of the introduction, while the latter name is correctly spelt in the main text of the book.

DIAGNOSTICS OF INTERNAL MEDICINE.

Fourth edition. By GLENTWORTH REEVE BUTLER, M.D., Sc.D., LL.D., Senior Physician, Methodist Episcopal Hospital; Senior Physician, the Brooklyn Hospital, &c. London and New York: D. Appleton and Company. 1922. Pp. 1380. 45*s*.

THIS clinical treatise upon the recognised principles of medical diagnosis is divided into two parts, of which the first—on the Evidences of Disease—opens with a description of the routine methods of clinical examination. These are fully described, and the physical signs present in various pathological states are illustrated by many valuable plates and figures, which constitute a distinctive feature of the work. The sections dealing with the examination of the different systems are for the most part comprehensive; that describing the circulatory system is worthy of special notice, and includes an account of the recent advances in cardiology, with appropriate illustrations. Electrocardiographic records are not given, but the clinical application of the information obtained by their use is indicated. The description of clinical pathology is, with few exceptions, full and detailed. Thus an account is given of the procedures adopted in the classification of blood donors, and the tests for renal efficiency, the Goetsch and Schick reactions, and the fractional method of gastric analysis are included. In the section devoted to urinalysis, the actual tests for the detection of abnormal constituents of the urine are not described. There is no adequate account of clinical bacteriology, and a special section would have been of value.

In Part 2, entitled Diagnosis, Direct and Differential, the symptoms and diagnosis of individual diseases are discussed. Although this part comprises nearly one half of the volume, it seems doubtful if the value of the work is increased by its inclusion, as it contains little if any information which is not given in a text-book of medicine. The volume as a whole is undoubtedly of great value to the student of clinical medicine.

HYPODERMIC MEDICATION.

Manuel Pratique de la Médication Hypodermique. Third edition. By P. ABRAMI and Others. Paris: Albert Buisson. 1921. Pp. 352. Fr.6.

THIS comprehensive little book gives in an easily available form exactly what the practitioner requires to know about hypodermic medication. It will form an excellent stand-by for the man who usually gives his drugs by the mouth and is only occasionally called on to use a newer method. Various authors contribute 13 sections, the most important of which are on technique, syphilis, serum and vaccine therapy, tuberculosis, local anæsthesia, and the value of hypodermic medication in diagnosis. The index is good, and information on the applicability of a drug to hypodermic methods as well as on technique is easy to find.

RONTGEN RAY DIAGNOSIS.

Die Röntgendiagnostik der Magenkrankheiten. Von Priv.-Doz. Dr. M. FAULHABER, Würzburg. Dritte vermehrte und verbesserte Auflage von Dr. L. KATZ, Berlin-Wilmersdorf. Halle-a-S.: Carl Marhold. Pp. 112. M.17.

IN this little book Dr. Faulhaber has very clearly set out the main principles in the diagnosis of diseases of the stomach by means of the X rays. He approaches the subject from the point of view of the physician and surgeon rather than from that of the pure radiologist, and lays stress on the futility of attempting to diagnose stomach trouble without a thorough previous knowledge, first of the nature and clinical aspects of these diseases, and secondly of the history and results of the clinical examination of the particular case in question. He emphasises the importance of every radiologist being also a fully-qualified medical man.

The first chapter is confined to a short account of the normal stomach as revealed by the X rays, describing the form and position, the differences in the male and female, and the normal variations due to the effects of muscle tone and function. The author then deals in turn with the diagnosis of gastroptosis, atony, dilatation, ulcers of all kinds, hour-glass stomach, and carcinoma. In the chapter on gastric ulcers he points out that a negative X ray examination does not exclude the presence of an ulcer. In that on carcinoma he states that it cannot be hoped to diagnose an early growth by X rays, but that in the later stages it can often be demonstrated that the case is inoperable, thereby saving an unnecessary laparotomy.

The author makes no claim to any original discoveries, but the clear and concise description of each condition and the differential diagnosis thereof, together with the absence of any pure radiographic technique, should make the book extremely useful to the practitioner, physician, or surgeon, as well as to the beginner in radiography.

DR. BEALE.

Or More about the Unseen. By E. M. S. London: John M. Watkins. 1921. Pp. 152. 3s. 6d.

THAT there are spiritual beings whose office it is "to succour and defend us on earth"; and that the souls of the departed in the next world still care for, are interested in, and help those left behind are articles of the Christian faith and are held as beliefs in other religious communities. We have no quarrel with such beliefs which have brought in the past, and do still bring comfort and refreshment to the sorrowful and anxious. But when such beliefs are prostituted to the furthering of quackery of the basest kind, it is time to protest. Such prostitution of belief is found in the book before us, a book which is all the more mischievous in that the writer is apparently honest in intention.

The main part of the book describes the treatment given by a "Spirit Doctor" named Beale in various cases of illness, and more especially to a case which seems to have been cystitis. Dr. Beale works through a medium, whom he controls, called Miss Rose, and in the cystitis case there were also in charge another spirit called the Professor and another spirit doctor named Frankfort. In addition, whether because the patient and her sister, who is the writer of the book, did not altogether trust Dr. Beale and his colleagues, or whether in view of a possible inquest, there was also a mere "earth doctor" who held what a lawyer would call a watching brief. And we cannot identify him in the Medical Register for 1921. Dr. Beale, although a spirit, does not seem to have acquired much increase in knowledge; he made his diagnosis by "sensing" a lock of hair or an article worn next to the skin; sometimes he used a spirit mirror (p. 117) by which he could see anything going on on earth. The cystitis case proved very severe and the climax is described in Chapter VIII., p. 94 et seq. Here we have all the old quack terms, the pouring in of power, the psychic battery, the rappings in the room, and finally the following dramatic episode, p. 96. "Gradually improvement set in, and the heart beats became stronger, but not for an instant did the doctor relax his attention at her bedside. At length after about eight hours he said that he could leave her for a short time, and he asked for a hot bath. He said he felt permeated with poison and that a bath would help to get rid of it; so without losing control, he bathed and changed all Miss Rose's clothes (a very difficult task for him as the fastenings bothered him so!) and returned in 20 minutes time, greatly refreshed."

Does anyone seriously believe that a spirit would want or could have a hot bath? How and why were Miss Rose's clothes changed? Did they come off by themselves? The whole story is an amazing instance of credulity. The Professor then turned up and the unhappy patient was dosed with "four or five different emetics" and large doses of lobelia, together with vinegar and hot water. The patient got well. But a more childish and fatuous record of credulity we do not ever remember to have read.

THERAPEUTICS.

L'Année Thérapeutique. Médications et procédés nouveaux. Second year. 1921. By Dr. L. CHEINISSE, formerly editor of *La Semaine Médicale.* Paris: Masson et Cie. Pp. 144. Fr.6.

WE welcome the second number of this useful year-book of treatment. As last year, the author extracts the principal articles on treatment from home and foreign papers, summarising and in some cases criticising them. As the series grows it will become more and more valuable, especially if a summary index is issued periodically. The first part of the volume contains a list of the diseases for which new therapeutic remedies have been suggested and an account of these remedies. The second part is taken up with the technique of different forms of infections. What strikes us most in reading the book is the large portion of it devoted to vaccines, serums, and to hypodermic (in the wider sense) treatment generally. Organic arsenic preparations are now used in many and varying diseases.

The individual number is good, the series will be even better; it is thus unfortunate that the binding is not of a durable nature.

LA PYÉLOGRAPHIE.

By ED. PAPIN, Ancien Chef de Clinique de l'Hôpital Necker, Chirurgien-Adjoint de l'Hôpital Saint-Joseph, Paris. Paris: A. Maloine et Fils. 1921. With 83 Figures. Pp. 45. Fr.25.

THIS is an elaboration of Dr. Papin's communications to the International Congress of Urology, and it gives us a clear idea of his views. We agree that there are certain essential features in the technique of pyelography; first, the patient must be fully conscious; secondly, injection should be by gravity; and thirdly, the indication that the filling of the pelvis is completed without undue distension is the aching pain in the loin felt by the patient. Ill-effects following pyelography are avoided if these technical details are followed. Dr. Papin shows that those which may occur include severe pain, penetration of the renal parenchyma by the fluid used, and toxic effects from absorption. He holds that a 25 per cent. solution of sodium bromide is the most suitable fluid for injection, as it is non-toxic, non-irritating, and cheap. He also reviews the conditions in which pyelography may be of assistance in diagnosis. Its value in hydronephrosis is, of course, enormous, but we are not convinced that pyelography is of any real assistance in the diagnosis of renal tuberculosis, growths, cysts, or infections. There are 83 excellent plates reproducing radiographs of the method in use in various conditions, principally in hydronephroses.

THE GREY ROOM.

By EDEN PHILLPOTTS. London: Hurst and Blackett, Ltd. Pp. 286.

Mr. Eden Phillpotts, well known for his series of admirable novels placed in a setting of western moorland, has broken new ground in this book, which is a sensational story of murders, mystery, detectives, and clues. It makes good reading, not only because the secret, and a very gruesome one, is kept until the end, but because, which is not of frequent occurrence in sensational novels, the story in Mr. Phillpott's practised hands is very well told. It is something of a treat to get a frank "shocker" written in English, pure of incomprehensible slang. Medical men, however, may feel cheated by finding that an ingenious though improbable mechanism has been the cause of tragedies which could not be explained by any post-mortem examinations. It is a fact that there is a percentage of deaths for which no reason can be found by the pathologist, and the reader of the first ten chapters of what is not a long book would believe that the mysterious deaths at Chadlands were of that category; and inasmuch as the deaths always occurred in the same room, he would have anticipated an explanation along psychical lines, as did one well-drawn character in the book and to his tragic discomfiture. But Mr. Eden Phillpotts ends his story with that complete explanation which the larger public demands when mysterious crimes are about. We are not sure that the author's physics and toxicology are less imaginative than the reasons for the deaths that might have been furnished by the spiritualist, but the novelist is certainly not bound to be accurately scientific when accounting for his episodes. We recommend this novel to those of our readers who follow the wise and pleasant habit of seasoning their work with light reading.

THE LANCET.

LONDON: SATURDAY, APRIL 8, 1922.

The Common Cold.

So far have we progressed in the suppression of mortal epidemic disease that what was taken as a trivial incident of normal life a hundred years ago has risen to be the curse of civilisation. The standard of health and comfort which we now demand requires the common cold to be taken in hand with all the seriousness that has reduced typhoid fever to its present precarious state. At present hardly anything is known about the disease or diseases which pass under that name, for indeed it is still quite uncertain whether the condition is a single multiform infection or a group of various infections with a convergent symptomatology. It is easy enough to isolate from the mucosa of the nose and throat a variety of bacteria, and the fact that during the acute stage these are often obtained in pure culture has encouraged different investigators to attach ætiological importance to Hoffmann's bacillus, the *Micrococcus catarrhalis*, streptococci, pneumococci, Pfeiffer's influenza bacillus and its mimics, and other more or less well-known forms. Attempts to correlate different types of the ordinary disease with differences in the bacterial flora have not been illuminating.

Some evidence in favour of the causal rôle of these microbes has, however, been obtained from the effect of preventive inoculation with them. This has proved in many cases useless, but in a certain number of people the method has been helpful to a greater or less degree in diminishing the number of attacks or in reducing their severity. It is noteworthy in this connexion that the expert bacterio-therapeutist generally uses a mixture of organisms and not a single sort for his vaccine. The empirical discovery that a mixture gives better results does not, however, show that the disease is a multiple one. At the moment it seems most likely that none of the described organisms can be put down as the actual cause of the common cold, and that they are secondary and subsidiary infections implanted on the operations of the unknown agent which our belief in a world of cause and effect requires us to discover. KRUSE in Germany, FOSTER in America, and more recently Dr. M. H. GORDON of St. Bartholomew's, have found in the nasal secretion in acute catarrh representatives of the organisms which, at or beyond the limit of microscopical visibility, are at present described as "filtrable viruses." From the nature of the case it will obviously be difficult to establish their ætiological position, but enough positive infections in man have been effected to make it reasonable to take their causative relationship to the common cold as a useful working hypothesis, which is at any rate not inconsistent with the facts as we know them. On this view the disease is in parallel with measles and influenza in which many of the severe symptoms and most of the worst results are due to streptococci, pneumococci, and other bacteria which are not the cause of the disease, but for which the original infection prepares a suitable field. More careful clinical analysis of the cold along the lines of Dr. OLIVER HEATH's interesting paper in our present issue will no doubt yield fruitful results. Common knowledge of the laymen's sort tells us at once, however, that we often have the early symptoms of a cold which, with or without the exhibition of some domestic specific, disappear in 24 to 48 hours without the more usual sequelæ of profuse and troublesome catarrh lasting a week or more. This may well be the cold in its pure form. The absence of black currant tea, inclement weather, the irritation of tobacco, and so forth, may simply encourage a secondary implantation of the catarrhal bacteria. Vaccination may be immensely helpful in receptive individuals because it helps them to resist the secondary catarrhal part of the disease to which so much of its misery is due—blocked nose, aching antrum, and general discomfort.

Without knowing the causative organism, it is hardly possible to evaluate the influence of the soil on which the infection falls and its surroundings. Many persons never "catch cold" from sitting in a draught or getting their feet wet. But it is undoubted that many others do, and the liability to this inconvenient susceptibility seems to increase a great deal with age. The presumption is that this is due to auto-infection, the probability of becoming a carrier of the cause in a sinus becoming greater with increasing years and a larger total of attacks. The problem of chronic infection of mucous membranes is ill-understood; its elucidation would be helpful in gonorrhœa where infection persists in the same intractable way. There is here a rich field awaiting collective inquiry.

The Bashfulness of Medicine.

> "I can no longer endure how the populace torture me daily and hourly with their demands for the impossible. Because I have penetrated a little farther into the mystery of Nature's ways, they believe that, like the Gods, I can relieve them through some magic or supernatural means, and charm good fortune; when after all I am but a common mortal like others."
> —*Virchow.*

IN these words attributed to VIRCHOW is to be found the humility of the real healer, one who by his researches into the nature of causes of death let a flood of light into the secret chambers of life. Dr. LOUIS I. HARRIS quotes them effectively in a public health bulletin[1] and compares the humility of the master with the effrontery of the charlatan and the quack. He goes on to question how the public can be made to appreciate the contrast between the claims of physicians on the one hand and the shameless pretensions of the practitioners of the many medical cults and irregular forms of healing on the other. In America, it appears, the challenge of the situation has thus far failed to bring forth leaders with large vision, and this failure in America, as here, has been attended with serious peril to the public health. The modesty of knowledge need not and should not prevent the organisation and coöperation without which the medical profession can accomplish nothing large in the public interest.

Dr. HARRIS frankly envies the success of the Life Extension Institute[2] in New York which performs an important type of medical service to the general community on terms which in producing health also produce dividends, and with the aid of a publicity department with the range of a brass band. What an individual medical man may not do without incurring reproach a medical society as an organisation can do with propriety, and he draws a picture of what any county or well-organised district medical association might achieve as the medical service agency for its own area. To take an instance very pertinent at the present time. Such a local medical service agency could, at the proper season, set out simply by means of

[1] Remedies for Certain Defects in Medical Organisation and Service. By Louis I. Harris, Dr.P.H., M.D., Director, Bureau of Preventable Diseases. Monthly Bulletin of the Department of Health, City of New York, December, 1921.

[2] See "The Value of Periodic Health Examinations," THE LANCET, 1921, ii., 1289.

circulars, placards, and newspaper notices the value of the Schick test, and its beneficial possibilities for the school population. This would give the chance to any parent, whose child was demonstrated by the Schick test to be susceptible to diphtheria, of spending a small sum on the three treatments with toxin-antitoxin required to immunise the child, thus escaping the risk of a much larger outlay of money and anxiety as a consequence of a severe or even fatal attack of diphtheria incurred by the child. Dr. HARRIS reproaches his colleagues with laying away new medical proposals instead of coming forward in the interest of public welfare and giving counsel to their fellows upon the relation of housing and other social and economic causes to health. He would restore the family physician to the high estate which he enjoyed before the luxuriant growth took place of specialists of all qualities and degrees. A general practitioner in the Eastern States made a point of refusing, as he called it, to be a switchboard operator in connexion with specialists.

Dr. HARRIS modestly writes that he does not profess to have solved the problem of organising the medical profession in the practice of preventive medicine, but his circular is certainly likely to provoke his practising colleagues to constructive suggestion and purposeful action. Something more is needed than a merely defensive professional union. Writing [2] of the "Leaven of Science," OSLER tells of W. E. HORNER, the first real contributor to human anatomy in America, how he daily sought freedom from the errors of an excited imagination, from the allurements of personal friendship, and from the prejudices of education, and in so doing came to settle the true merits of many vexed questions The trust placed by his immediate circle of patients and friends in the individual practitioner's honesty of purpose is often very great. What might be achieved in public health by the collective action of a group of such practitioners is simply not known. But it might be more than enough to counteract ignorant prejudice.

The Health of School Teachers.

THE illness of teachers is a problem of great concern to educational authorities but one on which the hygienist has written little. The statistics are difficult to handle and must be obtained for a wide area and for some considerable time. They have further to be corrected for factors which at present cannot be estimated. The teacher during the first few years of professional life, at any rate, is the result of a strict medical selection. This probably accounts, for instance, for the period of maximum tuberculosis mortality being later for teachers than for the general community. Again, many sharp and ambitious men leave the ranks so that those remaining may differ in character after the first few years.

In a paper presented at the March meeting of the Royal Statistical Society an attempt was made by Mr. J. Y. HART, B.Sc., to apply statistical methods to the mass of records of teachers' absences under the London Education Authority. Previous investigations have mainly dealt with mortality, and their results have shown teachers to live comparatively healthy lives. The present inquiry deals purely with absence from work during active teaching years of London public elementary school teachers. A mass of information is contained in Mr. HART'S tables, which might form the material for statistical study in several directions, but the paper as presented suffers from lack of exact statement as to how the results were obtained, and in places the figures are uneven and discrepant. It may be taken, however, from the examples given that roughly speaking half of the teachers are not absent at all during any year, one-third are absent once, and one-seventh twice. An adjacent week-end is included in about two-thirds of the absences. The district in which the teacher works has apparently no appreciable effect on absence. In a group in which nearly 6000 years of service were analysed according to causes of absence, whilst absence due to illness of all kinds averaged 16 days, the time lost in heart cases approximated to 60 days, in cases of operations to 50 days, and in nervous and mental cases to 27 days. The figures given by Mr. HART in relation to the absences of married and single women do not accord with the common experience that an appreciably greater proportion of absence occurs among the married. Responsibilities, such as illness of husband and children or domestic trouble, account for this quite apart from personal illness, and it would be instructive to work out the bearing of these incidental factors on married women's absences. The inclusion among married women of widows, many of whom have returned to the teaching profession, may partly account for Mr. HART'S deductions. The point deserves attention, for it would be interesting to know how far professional women differ from other women workers in respect of absence, but the number of married women in the analysis is too small to afford adequate data for comparison. Further investigations are necessary before we can accept the statement that in London there is about one birth to every nine women (including widows) of the general population, while among teachers the proportion is 1 to 33. These two groups would only be comparable if the wives and widows were equally distributed, but as a result of the war there was an influx of widows into the London teaching service which would seriously disturb the distribution and affect the fertility rate to an extent invalidating comparison.

One of Mr. HART'S conclusions has a very practical bearing. Lengthy absences, he says, are most expensive to the ratepayer. Now 88 per cent. of the absence in bulk is caused by 21 per cent. of the teachers in respect of absences during the year of eight days and over. Similarly, 43 per cent. of the absence in bulk is caused by 3 per cent. of the teachers in respect of absences of over 50 days in the year. Although head teachers are above the mean age their actual absence is considerably less proportionately than would be expected if judged by the general average. We repeat our regret that many of Mr. HART'S deductions do not carry full conviction. Little regard, for instance, has been paid to age distribution in the different groups. The subject is one to repay expert handling in the elucidation of many points on which our knowledge of the health of the teaching service is limited and inaccurate. At the same time, the conclusion seems justified that the teaching service in London is conscientiously worked and that the teacher's life is a comparatively healthy one.

[2] Æquanimitas and Other Addresses. 1906. London: H. K. Lewis.

The Control of Medical Benefit.

A National Health Insurance Bill was introduced last week in the House of Commons by the Minister of Health and we give in our Parliamentary column a summary of its provisions. In essence the Bill provides for 2*s*. 6*d*. per year to be paid towards the cost of medical benefit in respect of every person insured in an approved society, the funds for this purpose not to be raised by any fresh call on the taxpayer but to

be diverted from the accumulated surplus of the societies. It could hardly be supposed that some equivalent for this gift, estimated at £3,000,000 in value, would not be demanded by the societies for themselves, but Sir ALFRED MOND'S statements were clear and categorical up to the moment the Bill was introduced, that it would not entail any changes in the control of medical benefit. Nor does it. But it has now emerged from a statement made by Sir ARTHUR ROBINSON to the Insurance Acts Committee that, in return for accepting these new charges, the approved societies intend to claim a voice in the negotiations both in regard to the capitation fee and the conditions of medical service after the expiry of the present agreement at the end of 1923. Rather than inflict undue hardship upon the insured population by raising their contribution to insurance funds under present economic conditions, the approved societies preferred to forego some of their present financial advantage with a view to regaining in two years' time some of the control of medical benefit which was in the hands of friendly societies prior to the passing of the Insurance Act of 1911. The Minister of Health's repeated disclaimer on this point was correct in word but the purport may have been mistaken. At present negotiations about terms of medical service and remuneration under the Insurance Acts are carried on directly between representatives of the medical profession and the Ministry of Health without the interposition of any third party. This has not implied unwillingness on the part of insurance practitioners to confer with representatives of the approved societies at any time in considering suggestions for improving the service. The statutory insurance committees afford a locus for constant exchange of view. There is, however, no doubt that insurance practitioners as a body regard direct negotiation between the Government and themselves as an important factor in securing their legal rights and professional privileges under the Acts. The battle of the clubs has not yet faded from memory, and experience has shown the doctor to be a safer trustee of the best interests of the insured person than the agent of the approved society which nominally represents him. We understand that the position is regarded seriously enough to justify the calling of a special conference of representatives of local medical and panel committees at an early date.

LIFE-TABLES FOR THE UNITED STATES.

THE Federal Bureau of the Census announces the early publication of a second series of life-tables for the death-registration area of the United States, and this is anticipated with much interest by all who are engaged in international comparisons of vital statistics. The tables will show conditions as they existed in 1890, 1901, and in 1910, thus making it possible to study the changes which have occurred in life prospects during two decades. In a preliminary statement published by the U.S. Public Health Service, it is stated that these tables will show that the expectation of life among both men and women in most classes has steadily increased, though—as might have been anticipated—there is no indication of any definite lengthening of the span of life. The possibility of any such advance in the limiting age of human life is not within sight, if indeed it will ever become so The initial practical problem for medicine is how to increase the number who will attain the present limit of age—how, in other words, to avoid the accidents of disease which curtail the span of life for the majority of mankind. This is what is meant when we speak of "*reduction* of the death-rate." In reality we wish to state that there has been a *postponement* of death to more mature years. Associated with this is the problem of securing a higher standard of health for every member of the community. Happily, on the balance, we can be assured that measures for preventing sickness and death, and for the early and efficient recognition and treatment of sickness, are also measures which will tend to elevate the health-level of the general population.

Annotations.

"Ne quid nimis."

THE LABOUR MOVEMENT AND THE HOSPITAL CRISIS.

A SMALL pamphlet[1] has just been published by the Trades Union Congress and the Labour Party, setting forth Labour's scheme for a complete hospital service. The first half of the pamphlet deals with the defects of the present hospital service. It points out, as has often been pointed out before, how existing public hospitals are controlled by various authorities: the London fever hospitals by a hybrid body on which the Ministry of Health and the Poor-law authorities are both represented; other fever hospitals and sanatoria by the county and local health authorities; the public asylums by the county councils and councils of county boroughs, advised and supervised by the Board of Control; and the Poor-law infirmaries by the boards of guardians; whilst every voluntary hospital is administered by its own committee of management. The report then proceeds to show how modern methods in medicine have made diagnosis and treatment a problem which is beyond the scope of individual endeavour. Team-work has become essential. It is recognised further that the work of the hospitals cannot even be confined to treatment by a highly specialised team. The hospitals are also engaged upon all kinds of research work which is in the best sense of the word preventive medicine; indeed, throughout its often trenchant criticism, the report reveals some conception of the debt which the public owes to the British hospitals general and special, State-supported and voluntary. Taking 2·5 beds per 1000 of the population as the irreducible minimum for the whole country, the writers of the pamphlet show that there is a deficiency of 107,906 beds, and that the anomalies with regard to hospital abuse by patients, under-staffing, long waiting lists for admission, obsolete methods of recommendation for admission and the like, all tend to make this shortage of beds a more serious matter. As far as the general hospitals are concerned, the writers suggest that events are now moving in two main directions: (1) The introduction of a far more orderly arrangement of hospital services with increased accommodation, and (2) the perpetuation of the voluntary system by new methods of raising money. These new methods, classified under six headings—subscriptions from the workers, payments by patients for services rendered, donations from approved societies, payments by insured persons, payments by public authorities for services rendered, and donations from the State and from municipal authorities—are discussed in detail. All these measures, of course, involve the question of the position of the honorary staff. As long as the hospitals were charitable institutions the medical staffs were willing to give their services free, but times are changing and the State-aided hospital raises new issues. The report examines the position objectively without definitely committing itself as to the solution.

The second half of the pamphlet deals with the ideal scheme of hospital services which Labour would like to see applied to this country in due course. The scheme is based upon a coördinated system of hospitals called "Health Centres," and visualises a complete chain of units from the local or cottage hospital to the national hospitals in university centres. An outline of this suggestion has been discussed in a previous memorandum of the Labour Party,[2] and by various committees interested in the matter. Two of the most interesting aspects of the scheme are the position of the dental profession—referred to as the "outpost of preventive medicine"—and the work of visiting nurses

[1] The Labour Movement and the Hospital Crisis: A Statement of Policy with Regard to Hospitals. Trades Union Congress and the Labour Party, 32–34, Eccleston-square, S.W.1. Price 1s.

[2] Organisation of the Preventative and Curative Medical Services and Hospital and Laboratory Systems.

and after-care. The section contains a stimulating paragraph setting forth the ideals of public service which should actuate all those who work for the common weal, and the report ends with a section on practical steps towards the ideal—the first step towards this being the acquisition of the Poor-law infirmaries from the guardians and the transference of them to the local health authorities.

We welcome this report as a contribution towards the discussion of national health, aroused by the state of things revealed by the medical boards during the war. Every reader of the Labour Party's pamphlet may not agree with the proposals set forth, but the suggestions made and the principles enunciated are free from bitterness and party rancour: "It will make no difference to the recording angel whether or not the hospital is controlled by the local health authorities.... To the truly charitable, opportunities of *service* are of even greater value than gifts in kind, and to these there can hardly be a limit even under a public medical service." The report purports to be, and is, an honest and frank statement of what Labour stands for in public health administration.

A DUAL ORIGIN FOR RICKETS.

Two widely different explanations have been given of the common origin of rickets, different but not mutually exclusive. Some observations by E. V. McCollum and his co-workers recently communicated [1] to the Society for Experimental Biology, point to the existence of more than one kind of the disease. Amongst the clinical observations which led these observers to the possibility of this duality are certain peculiar manifestations of the disease and associations with other diseases. Rickets occurs with great frequency in premature children, even when breast-fed, and it seems to affect the head more than the extremities or ribs. Indeed, the rachitic involvement of the head in these children appears to be out of all proportion to the involvement of the extremities. In another group of cases of rickets the disease shows an especial tendency to involve the shafts of the long bones, with the occurrence of multiple fractures from trivial causes. There is a curious association between rickets and certain forms of secondary anæmia (so-called alimentary anæmias). Rickets is also associated with the most severe forms of chronic interstitial nephritis or developmental defects of the kidney. Tetany sometimes occurs with rickets, sometimes not.

Experiment, however, seems to yield results which indicate that there may be two distinct forms of the disease. It is already known that certain defective diets when fed to the young rat produce marked disturbances in growth and calcification of the skeleton—such diets were all insufficiently supplied with a factor or factors present in cod-liver oil, but differed considerably in their mineral fraction, chiefly as regards their calcium and phosphorus. In one group the phosphorus was at a low level, but the calcium at or above the optimal level; in the other group the calcium was at an extremely low level but the phosphorus was not far from the optimal. Young rats fed under laboratory conditions (room light) with the former diet developed a diseased condition of the skeleton which was identical in all essential particulars with that seen in the rickets of human beings—the costo-chondral junctions were greatly enlarged, the long bones of extremities enlarged at the ends, they could be cut and broken easily; the rachitic metaphysis was well marked, calcium deposition was entirely lacking or extremely defective. Young rats fed on the second diet developed a diseased condition of the skeleton which also bore resemblance to the lesions found in the rickets of human beings; the gross deformities were as great or even greater than in the first group, but the pathological condition induced in the bones by the diets of the second group did not correspond at all points to that usually found in the human subjects of the disease. The authors, in discussing their results, come to the conclusion that in the rat, when deprived of certain light rays and an unidentified factor contained in cod-liver oil, a pathological condition corresponding in all fundamental respects to the rickets of human beings can be produced through the diet in two ways: (1) by diminishing the phosphorus in the diet and supplying calcium in excess; or (2) by reducing the calcium but maintaining the phosphorus at a concentration somewhere near the optimal. They are led to believe that there are two main forms of rickets, one characterised by a normal or nearly normal blood calcium and a low phosphorus, the calcium-phosphate ratio being high, the other by a normal or nearly normal phosphorus, but low calcium, the calcium-phosphorus ratio being low. Between the two there are probably innumerable forms.

On theoretical grounds, the observers think it possible that the rickets which develops in the youthful subjects of the severe functional derangements of the kidney may belong to the low calcium form of the disease; in other words, that the rickets in these patients may be truly endogenous in origin, depending primarily on the inability of the kidney to excrete phosphorus. The authors remark that if this view proves to be correct "renal dwarfism" is in reality renal rickets and ought so to be called and regarded.

[1] Proceedings, January, 1922.

SARCOMA OF THE PENIS.

SARCOMA of the penis is a somewhat rare tumour, only a score or so of cases having been reported up to the present time. In a recent number of *Le Scalpel* (March 11th) Dr. F. Van den Branden, of Brussels, reports a case occurring in a mechanic aged 31. It was only seen by him after five months of evolution during which it had been more than once mistaken for a chancre. Since the third month there had been pain sufficiently severe to interfere with sleep. During the five months the patient had lost over 2 st. in weight. There were enlarged painless glands in both groins. The penis was amputated 2 cm. above the pubis. Sections of the growth showed a large-celled sarcoma. Radiotherapy was administered and the patient left the hospital after a month. Four months later, however, he returned with greatly enlarged inguinal glands. An attempt was made to extirpate the growth by dissection and electro-coagulation but without success. At autopsy metastases were found in the right kidney and suprarenal body. The moral of this case, as the author points out, is twofold—the importance of early diagnosis and the necessity, in spite of the views of several writers, of immediate dissection of the inguinal glands.

BOVINE TUBERCLE AND MAN.

THE case for the present campaign in favour of purer milk is so unanswerably strong that it would be a great pity if it were overstated. In a recent letter to the *Times* a medical correspondent suggested that if Sir Alfred Mond would devote half a million of money to the supply of tubercle-free milk to the children of the country, he would soon eliminate surgical tuberculosis. Speaking in Parliament a few days later, Sir Watson Cheyne was credited with the statement that "... about 60 per cent. of the various forms of disease in children were due to infection from tuberculous cattle by means of milk ..." Do the facts as ascertained support such statements as these? Scandinavian experience points definitely in another direction. In a monograph published by Dr. F. Harbitz,[1] professor of pathology at the University of Christiania, and president of the Norwegian National Association for Combating Tuberculosis, present knowledge of tuberculosis is reviewed in the detached and objective light of the bacteriological laboratory and post-mortem room. Prof. Harbitz publishes maps of Norway showing the distribution of tuberculosis in man and cattle, and it is obvious at a glance that the

[1] Om Oprindelsen til og utviklingen av de Tuberkulöse Sygdommer, Christiania, 1922, pp. 96.

prevalence of the two diseases does not run parallel. He does not think that tuberculosis in cattle appreciably affects the frequency of tuberculosis in man, and he refers to investigations by Dr. A. de Vesche, of Christiania, who examined the types of tubercle bacillus found in 50 tuberculous children chosen at random. Only in 8 per cent. did the cultures conform to the characteristics of the bovine type. Another Norwegian, Dr. Leegaard, invariably found the human type in 20 cases of tuberculous middle-ear disease. At the large agricultural college of Aas in Norway, Dr. J. Thesen noticed that though the cattle were saturated with tuberculosis, and their milk was consumed unboiled by the children of the staff, yet in a period of about 43 years no case of tuberculosis, far less any death from tuberculosis, occurred among these children. Prof. Harbitz finds that proof is yet lacking as to the supposed antagonism of the two types of tubercle bacilli to each other, and he is sceptical about the teaching that bovine tubercle bacilli provoke a comparatively mild disease. Mildness or severity is, he holds, determined rather by localisation, the patient's age, and the quantity of the virus absorbed than by the character of the bacillus itself and, indeed, the bovine type may well cause fatal miliary and meningeal tuberculosis. In his work on Tuberculosis in India, Dr. A. Lankester gives cogent proofs in support of his view that "... in this country surgical tuberculosis, which is in many areas excessively prevalent, is entirely independent of infection from bovine sources." The purveyors of dirty milk must, however, find no excuse in these views for going on still in their wickedness, and the case against dirty milk as a carrier of disease is anyhow so damning that a partial and qualified acquittal on one of many counts leaves the general indictment practically as strong as ever.

THE ROCKEFELLER SCHOOL OF HYGIENE AT JOHNS HOPKINS.

THE recent gift of a million dollars by the Rockefeller Foundation for the establishment of a school of hygiene in this country lends interest to the still greater gift, announced within the last few weeks, of six million dollars to the School of Hygiene and Public Health at Johns Hopkins University. The fund from which these gifts have been made now amounts to 171 million dollars. As a rule the work supported from it is maintained from interest on this capital; but to give the six million dollars now allotted to Johns Hopkins capital has been raided for the third time. During the war five million dollars were withdrawn to aid the work of the American Red Cross, and the same amount to help the United War Work Organisation. The General Education Board, which is a branch of the activities of the Rockefeller Foundation, gave five million dollars to the University of Rochester for medical work; and among many other gifts to aid in medical education one given in 1913 is especially noteworthy—viz., the sum of one and a half million dollars for endowing the medical work of the Medical School at Johns Hopkins University, to enable the departments of medicine, surgery, and pædiatrics to be reorganised in such a manner that their staffs might completely withdraw from paid practice in order to devote their entire time to the care of patients, teaching, and research in their respective departments. This fund was most appropriately named the "William H. Welch Endowment Fund," and it is an open secret that Dr. W. H. Welch has in large measure guided these munificent gifts, and secured from the Foundation the most recent gift to the School of Hygiene and Public Health at Baltimore, of which he is the universally respected and beloved director.

At present the Baltimore school is one of four devoted to public health work in the United States. Another of these is at Harvard University which has recently received an endowment of over two million dollars from the Rockefeller Foundation, a third is at the Massachusetts Institute of Technology, and a fourth at the University of California. In none of these, hitherto, is work in preventive medicine solely undertaken. The Johns Hopkins School of Hygiene and Public Health was opened in 1918, and has been supported year by year on the income derivable from five million dollars, which now, after a satisfactory probation period, is handed over to the trustees of Johns Hopkins University as a permanent endowment. It appears to be generally accepted that the receipt of this gift has been facilitated by the action of the State Legislature of Maryland, which provided for the exemption from taxation of gifts to such institutions as the University, which are derived from sources outside the State. The work of the new school from the beginning has been a success. Last year it had over a hundred students, including large classes for a special intensive course of instruction in the work of a medical officer of health, students for this course coming from distant States and from Canada; and this year its students number 131, coming from 27 different States of the Union and from ten foreign countries.

The building will be in juxtaposition to the medical school, thus emphasising the closeness of the link between curative and preventive medicine. It will be equipped with spacious lecture-rooms, extensive laboratories for teaching and for research work in physiology, chemistry, bacteriology, immunology, proto-zoology, and parasitology; and the staff will, as hitherto, be so organised that research is pursued in each branch of the school work concurrently with the routine work of teaching. By this means every student will have opportunity of being trained for his doctorate in public health or in science in an atmosphere conducive to individual efforts for the advance of the science of preventive medicine.

THE MEDICAL ANNUAL, 1922.

A SLIGHT alteration in arrangement is noticeable in the fortieth volume of the Medical Annual,[1] just issued. In former years the book was unevenly divided into a short part dealing with materia medica and therapeutics, entitled Dictionary of Remedies, and a larger part entitled Dictionary of Treatment, wherein medical and surgical progress for the year preceding publication was reviewed by distinguished contributors under alphabetical headings. This year, the editorial introduction is followed directly by a Dictionary of Practical Medicine, which includes the subjects formerly treated separately under appropriate headings. This change is likely to add to convenience of reference, for the time when arbitrary distinctions could be drawn between remedies and treatment is certainly past, if indeed it ever existed. For the rest, the value of this annual is well known to all sections of the profession. So confident are practising clinicians that no serious omission is to be feared in the records of the year's advances in treatment that many of them are content to throw away weekly and monthly journals after perusal and rely on the Medical Annual to supply references. If one compact volume can be safely accepted as a cumulative guide to therapeutics year by year it is not surprising that its popularity does not wane.

GONOCOCCAL INFECTIONS OF THE KIDNEY.

THE mechanism of renal infections occupied the attention of the Urological Section of the Royal Society of Medicine at the discussion which we report on p. 694, and the experimental work of Mr. Kenneth Walker throws light on the hitherto unsolved problem of ascending and descending infections of the kidney. Gonococcal renal infection is rare. Dr. R. R. Simmons,[2] director of the Medical Laboratories of the Iowa Methodist Hospital, who records an illustrative case, remarks that notwithstanding the great frequency of gonorrhœal infections of the lower urinary tract, similar infections of the upper urinary tract are remarkably

[1] Bristol: John Wright and Sons. 1922. Pp. 596. 20s.
[2] Journal of Urology, February, 1922.

scarce, only 25 authentic cases, including his own, having been recorded in the literature. In a large majority of the cases reported the diagnosis has been based on clinical evidence only, whereas the demonstration of the gonococcus by staining or cultural methods in material obtained directly from the renal pelvis or kidney substance is the only satisfactory way of definitely diagnosing gonorrhœa of the upper urinary tract. Although the urinary route might, on superficial consideration, appear to be the more likely source of kidney infection, Dr. Simmons points out that this route is of secondary importance, particularly in gonorrhœal infection, the ureter being doubly protected against infection, first by the sphincter action of the bladder wall on the ureter as it passes into the bladder, and secondly by the continuous irrigation of its epithelium by the flow of urine. Dissemination of infection from the bladder to the kidney by the lymphatics, though it may occur, is very infrequent, and hæmatogenous infection appears to be the most common mode of infection of the kidney in gonorrhœa. Of the 25 cases collected by Dr. Simmons, only 16 were of pure gonococcal origin. The most frequent associated infection was that due to *B. coli*. Sixteen occurred in males. The earliest appearance of symptoms referable to gonococcal infection of the kidneys occurred in Marcuse's case in which they developed ten days only after the onset of acute urethritis. On the other hand, in Stanton's case the involvement of the kidney did not take place till nine years after the primary infection. Both kidneys were infected in 6 cases only, the right kidney alone being infected in 12, and the left alone in 7. Infection of the pelvis only was demonstrated in 12 cases, and infection of the kidney, together with the pelvis, in 9 cases. A general gonococcal bacteriæmia was proved in 3 cases at the autopsy by the presence of one or more visceral foci elsewhere in the body. Dr. Simmons's case, which occurred in a negro labourer, aged 22, was remarkable for the onset of the symptoms four months after the attack of gonorrhœa, which was said to have been cured in a few days, and for the association of the gonococcal infection with traumatic rupture of the kidney. Recovery followed operation, revealing marked hydronephrosis, which had caused atrophic thinning of the kidney substance to an extreme degree.

SMOKE ABATEMENT.

THE final report of the Departmental Committee on "Smoke and Noxious Vapours Abatement," presided over by Lord Newton, ascribes the prevalence of smoke pollution in this country to the indiscriminate and wasteful use of raw coal for all purposes, industrial and domestic, and to the lax administration of the law by the responsible authorities. There is a tinge of regret underlying its further observation that it has no bold or simple remedy to propose, such as would appeal to the imagination and enthusiasm of the public at large. It can only advise the enforcement of the existing law strengthened where necessary by amendment. We share the regret that the Committee so evidently feels. Something wholly new and "drastic," using the word as the Greeks did to imply audacious in a good sense, would have a better chance of enforcement upon a more or less acquiescent public than the increased watchfulness of inspectors and the administration of familiar regulations rendered more stringent. As it is, we have not had a winter marked by prolonged or dangerous fogs, and many have forgotten, if they ever realised, the clearness and freshness of the air of our cities during the coal strike. If some citizens during the coming months will watch on a fine evening the chimneys of one of our monster hotels where coal is burnt, at the time when fires are made up for cooking dinner, they will perhaps admit that raw coal employed for all domestic purposes has a serious drawback for the public without much compensating advantage for its users. The interim report of the Committee, issued in June, 1920, dwelt upon the general evil of coal-smoke pollution, and explained that even in industrial areas domestic chimneys are responsible for 50 per cent. of it. It pointed out that there is no law to prevent the burning of raw coal for domestic purposes, suggested the obvious substitutes, recommended encouragement of their manufacture, and dwelt on the possibility of making compulsory the introduction of such substitutes in municipal housing schemes. In the present state of arrested animation with regard to housing schemes, we may have to rely chiefly upon a slowly developing public opinion in the case of domestic fires, and in that of the manufacturer's furnace to insist upon it being rendered innocuous so far as the law can achieve this without interference with industrial prosperity. There are already a number of prosperous manufacturers who do not rob their neighbours of sunshine.

OCCUPATIONAL THERAPY.

THE first number of the *Archives of Occupational Therapy*[1] gives entire satisfaction only in regard to the quality of printing and illustration. A preface by Prof. Adolf Meyer on the Philosophy of Occupational Therapy is uncomfortably choppy, while the reported proceedings of the fifth annual meeting contain wordy wranglings on points of order. Yet though some of the contributions are trivial there is enough solid matter in the journal to inspire hope for its future usefulness. Dr. F. Brush gives an illustrated account of the recreational therapy for cardiac cases already familiar to our readers.[2] He has no illusions about the relative value of work or organised play in the correction of neuroses and in the building up of general physical and heart-muscle strength through short period (rest and go on and rest) activities. From observation of 30,000 general and 3500 cardiac cases he finds that occupational therapy can be applied during only 1 to 2 hours per day, whereas recreation can be arranged for 3 to 6 hours without ill-effects or boredom. Incidentally he points out that even for the comparatively healthy, "*vacational* guidance is a great health field, measurably untilled." Dr W. A. Pattison, discussing the trend of occupational therapy for the tuberculous, gives a definition which may well be pondered by those who confuse therapeutics with economy. "Occupational therapy may be defined as any activity, mental or physical, definitely prescribed and guided for the distinct purpose of contributing to and hastening recovery from disease or injury." In this connexion Dr. Meyer utters a warning against industrial shops and work in laundry, kitchen, and the wards planned mainly to relieve the employees. Dr. Helen Boyle's suggestion[3] that in an ideal psychiatric residential clinic the patients will willingly perform all the domestic work would not escape criticism on this count. Moreover, observation of workers in houses makes it plain that such work seldom satisfies the creative instinct or the desire to practise a craft. It is a static occupation in that energy is spent not in production but in restoration, at arbitrary intervals, to a certain normal standard of cleanliness and order articles which are periodically disarranged and soiled. Considering the large proportion of domestic servants among those admitted to mental hospitals in the past, it would seem doubtful whether this type of work is likely to be the method of choice in therapeutics. It is because so little help is offered in the practical choice of congenial and not too stimulating work that the first number of this journal is disappointing. The subject has enormous possibilities—for example, the sufferer from dementia præcox might be kept for a few more months or years from utter vacancy by a series of occupations graduated downwards to suit his failing powers, while the higher grade idiots and those recovering from depressional insanity could be flattered into self-esteem by progress in a craft.

Occupational therapy, as we understand it, is of value in three main ways—as a means of (1) distrac-

[1] The official organ of the American Occupational Therapy Association. Published bi-monthly. Baltimore, U.S.A.: Wilkins and Wilkins. $5.50.
[2] THE LANCET, 1921, ii., 875, 974. [3] Ibid., March 25th, p. 583.

tion, (2) suggestion, (3) outlet for the creative instinct. As a method of distraction it may indeed, as Dr. Brush suggests, compare unfavourably with recreational therapy, though no hard line can be drawn between the two. As a means of suggestion that the patient is fit to take his place in the world as a serious worker or producer—suitable occupation, progressive in character, is probably the best therapeutic measure in our possession, whereas since the creative instinct is fundamental and the physical manifestations of its denial may be varied, the learning of a craft, however humble, may well start the patient on a new and happier epoch in life. The case for occupational therapy is established; it remains only to demand more detailed practical hints as to its employment from those who have experience of work with patients, and it may be hoped that subsequent numbers of this journal may fill this need.

THE SUMMER TIME ACT AND THE HEALTH OF CHILDREN.

THE Board of Education has issued a memorandum summarising in statistical form, and commenting upon, the views expressed by and through the local education authorities throughout England and Wales concerning the effect during 1921 of the Summer Time Act on the health and attention to school work of children attending the public elementary and secondary schools. Of these authorities only some 16 failed to reply: the 299 replies received enable classification to be made as follows: definitely in favour, 183 (these authorities representing an average attendance of nearly 3½ million children); definitely opposed, 89 (over 1½ million children); undecided, 27 (nearly a quarter of a million children). On the basis of the number of children represented the opinion of authorities is about 2 to 1 in favour of the Act, but nearly all those who consider its working prejudicial to the health of children add that this is due not to the Act itself, but to defective parental control. The replies of the authorities, apart from their numerical aspect, were of very uneven value; some were the result of scientific investigation, whilst the majority represented a general judgment based on experience more or less extensive but by no means scientifically verified. The Act is still regarded in some quarters with unreasonable prejudice, but the main difficulty of the process of collation lay in isolating the effect of summer time from other causes affecting the general condition of children. The coal stoppage of 1921, the prolonged drought, and the great heat, were all factors disorganising the home life of great numbers of children; but the Board of Education consider that it is quite possible to arrive at a definite conclusion regarding the results of the Act. The main fact emerging is that as a rule the worker rises by the clock but goes to bed by the sun; children conforming to household hours in the morning lose a valuable hour of sleep under the Act if not sent to bed proportionately early. But the majority of working-class children do not get enough sleep, apart from summer time; the causes of this loss are the individual ignorance and indifference of parents and the housing shortage—i.e., the general ignorance and indifference concerning the "economy" of overcrowding. Where separate sleeping room is not available for children, some authorities submit that they cannot be expected to go to sleep until the household is quiet. On the other hand, there are those who argue that sleepy children fall asleep irrespective of their surroundings. The weight of opinion seems to favour the view that the Summer Time Act causes, at worst, a small aggravation of a serious evil. A number of authorities have already taken steps to deal with the evil itself by issuing leaflets on the subject of children's sleep, and by arranging for talks to parents or older children. The Board of Education urge local education authorities and teachers to coöperate in enlisting the intelligent sympathy of parents in overcoming the only disadvantage to children which can be accepted as really due to the adoption of summer time.

TENURE OF MEDICAL OFFICERS OF HEALTH

THE Public Health (Officers) Act of 1921 came into operation on April 1st and provides that medical officers of health who give their whole time to public duties shall have increased security of tenure—that is to say, they shall not be removable from office except by the Minister of Health or by the appointed authority with the consent of the Minister. The Sanitary Officers Order, just issued [1] as Circular No. 299, revokes existing orders, but without prejudice to any rights or liabilities already acquired. For example, a medical officer of health, whose appointment has been sanctioned without limit of time will continue to enjoy the tenure already prescribed. An article in the new order provides that a medical officer of health must possess a special diploma in public health, sanitary science, or State medicine, and must have had not less than three years' experience in the duties of a health officer. The Ministry of Health reserves the right to make exceptions in the case of small districts where such qualification may be found impracticable to obtain. It is stipulated that particulars of any appointment must be submitted to the Minister of Health before being made, and that the appointment must be publicly advertised, preference being suggested for the medical or local government press. Medical officers of health who do not give their whole time to public duties must now be appointed in the first place for a term ending March 31st next following the date of appointment, with continuation in office from year to year, subject to three months' notice to expire on March 31st in any year. The provisions of the order do not apply to persons appointed to act temporarily or as deputy to a medical officer of health. A memorandum is in preparation dealing with the duties of medical officers of health and will be circulated to them in due course.

THE house of the Royal Society of Medicine, including the library, will be closed from Thursday, April 13th, to Tuesday, April 18th, both days inclusive.

A CONGRESS of Radiology and Physiotherapy will be held in London from June 7th to 10th, under the auspices of the Section of Electro-Therapeutics of the Royal Society of Medicine and the British Association for the Advancement of Radiology and Physiotherapy.

WE regret certain inaccuracies in the statistics given in a leading article on the Prevention of Measles which appeared in our issue of March 25th. In the period 1909 to 1919, the maximum, minimum, and average death-rate from measles per million persons living should have been given as 462, 96, and 287 respectively. In the years before 1796, the average annual death-rate from small-pox per million persons living is variously stated to have been 4000 to 5000. This correction vitiates to some extent the comparison drawn between measles and small-pox, but the seriousness of measles at the present time remains amply demonstrated. The weekly return of births and deaths for the week ended March 25th states that the deaths in England and Wales from measles, which had been 48, 50, and 72 in the preceding three weeks, further rose to 89 last week. Further details of the pathology and experimental inoculation of measles in monkeys is given by Dr. Rinya Kawamura in the *Japan Medical World* for Feb. 15th.

[1] H.M. Stationery Office. Price 1*d*.

FEDERATION OF MEDICAL AND ALLIED SOCIETIES. An extraordinary general meeting will be held at 12, Stratford-place, London, W., on Wednesday next, April 12th, at 5 P.M., when certain resolutions, passed at a meeting of the Federation in March, will be submitted for confirmation. These resolutions provide for alterations in the title and in the articles of association.

LEAGUE OF RED CROSS SOCIETIES.

THE second general assembly of the League of Red Cross Societies was held in Geneva from March 29th to 31st. Thirty-six Red Cross societies were represented, in many cases by medical men. Among the latter were Dr. A. Depage (President, Belgium), Sir George Newman and Sir Napier Burnett (Great Britain), Dr. P. Prochaska (Czecho-Slovakia), Dr. F. Svendsen (Denmark), Drs. Marcel Labbé and G. Kuss (France), Prof. Geroulanos and Prof. C. Baduel (Greece), Prof. A. Ninagawa (Japan), Dr. N. Aldershoff (Netherlands), and Dr. D. Colquhoun (New Zealand). Dr. L. Rajchmann was among the representatives of the League of Nations, and Dr. Linsly Williams, of the Rockefeller Foundation, took part in the discussion on public health nursing.

The decisions to move the seat of the League to Paris and to accept all recognised Red Cross societies into the League were the first to be taken. The French delegation announced that no opposition would be made by them to the admission of Germany, and General Haller, for the Polish Red Cross, expressed his gladness that with the German the Russian Red Cross would be admitted. This truly international and humanitarian spirit was conserved throughout the discussions. It was not forgotten that the peace-time activities of national Red Cross societies must continue to be developed along lines consistent with the fulfilment of their basic purpose—viz., the care of the sick and wounded and prisoners of armies and navies in time of war.

Three Main Services.

The first resolution directs the attention of national Red Cross societies to the pressing need which exists at the present time to create among all classes an intelligent demand for better health conditions and an increasing knowledge of the means of securing them; and recommends to them the adoption of peace-time programmes aimed especially at meeting this need through the development, with the coöperation of the League's Secretariat, of popular health instruction, public health nursing, and junior Red Cross organisation; the latter constituting in the judgment of the Council a specially valuable means of securing the education of the coming generation in health matters as part of its general purpose of instilling into children at the most impressionable age the spirit of service which lies at the basis of the Red Cross ideal. The League's Secretariat is instructed to direct "its main present effort" to the three services outlined above.

Since the public health problems of tropical countries are so different from those in Western Europe, and in order to bring the League's organisation into closer touch with the societies in distant lands, it has been decided to hold regional conferences at Bangkok in 1922 and at Caracas in 1923. The latter is to be a pan-American conference attended by representatives from the northern as well as from the southern continent.

A resolution was passed encouraging national societies to utilise the collaboration of experts in public health, to assist in the formulation and advise in the direction of its health programme.

Public Health Nursing.

The training of public health nurses was a subject which occupied nearly the whole of one session and excited a good deal of interesting debate. Dr. Svendsen explained that in Denmark a health visitor was distinct from a sick nurse, and he thought that one individual should not be expected to fulfil both functions. In general, however, this difficulty did not appear to most delegates to be a real one. The length of time considered necessary to train a public health nurse varies widely in different countries and even in different parts of the same country. The chairman, summing up the discussion, expressed the opinion that the sense of the meeting seemed to be that two years' general hospital training should be followed by one year's specialisation—this as a minimum requirement. It was resolved:—

1. That each national Red Cross society appoint a Red Cross public health nursing committee.
2. That the League continue during the ensuing two years the international course for the training of teachers of public health nursing; and that the League's nursing division be prepared, whenever requested by a national Red Cross society, to render active help in public health nursing, and to assist in all matters pertaining to the nursing field.
3. That the League Secretariat endeavour to stimulate the organisation of schools of nursing of the highest order in those countries in which institutions of this character do not already exist.
4. That all national Red Cross societies press the public authorities in their respective countries to improve the material and moral standing of public health nurses.

The General Council, recognising the great advantage to be derived from the establishment of an international course of training for teachers in public health nursing at a centre readily accessible to the countries of the two American continents and the Far East, recommended that the League Secretariat should examine the possibilities in this regard in consultation with the societies concerned with a view to instituting such a course.

Popular Health Instruction.

This subject also drew many informing speeches. The different conditions existing in different lands make a wide variation of methods necessary. Colonel Ross explained the futility of a merely theoretical teaching among the masses of India, over 90 per cent. of whom are illiterate. At the same time, travelling dispensaries had been found highly successful and many came for treatment wherever they passed. In general it seemed that most countries have not yet reached the place where health talks or even health literature can be relied on to do much good without demonstration. One speaker after another drove this point home. When one town has had its infant mortality reduced from 30 to 3 per cent. the neighbouring town is ready to study the methods that have been used.

The following resolution was carried:—

The General Council, after examining the question of popular health instruction, endorses the conclusion that popular health instruction is one of the most important activities by which Red Cross societies can render service to their respective countries while recognising that the existing methods require to be constantly examined and developed, and to be adapted in all cases to national and local conditions.

It recommends to national Red Cross societies that they should experiment with the project of systematic health instruction through local Red Cross groups; and is convinced that the efficiency of Red Cross societies, as factors in the improvement of health, would be greatly augmented by the creation at the headquarters office of each national Red Cross society of a popular health instruction bureau giving expert direction in the educational activities which necessarily permeate every phase of Red Cross work.

The Council considers that the following should be the principal lines of activity of the Popular Health Instruction Division of the League Secretariat: 1. Within the limits of its capacity, to assist, with advice and material, Red Cross societies in the organisation of popular health instruction activities, whenever called upon, deputing personnel to their service for this purpose when desired. 2. To continue the collection and study of health educational material and the preparation of such material to meet special requirements. 3. Where conditions are suitable, to stimulate the organisation, by or in connexion with Red Cross societies, of mobile health propaganda units.

Resolutions were also carried encouraging the secretariat to continue its work in connexion with venereal disease and to coördinate the child welfare societies of different lands. The association of the secretariat with the International Union against Tuberculosis was also approved.

ROYAL SANITARY INSTITUTE.—A sessional meeting will be held at 90, Buckingham Palace-road, London, S.W., on Tuesday, April 11th, at 5.30 P.M., when a discussion on Economy in Sanitary Appliances and Methods of Drainage will be opened by Sir Henry Tanner. The chair will be taken by Prof. H. R. Kenwood.

TYPHUS FEVER IN SOVIET RUSSIA.

BY CECIL A. HOARE, B.Sc.,
LATELY ASSISTANT LECTURER IN THE ACADEMY OF MEDICINE, PETROGRAD.

A BRIEF account by Dr. B. Sokolov of some of the work done on typhus fever in Russia after the revolution has already appeared in THE LANCET (1921, i., 874), but no reference was made in his article to certain reports presented to the All-Russian Congress on Typhus Fever in Petrograd, 1920, which embody the results of investigations made in Russia during the typhus fever epidemics of 1918–20. The conclusions reached are of interest in that they are independent of outside sources, for during this period Russia was completely isolated from other countries.

T. Fedorov[1] deals with statistics of typhus in Petrograd: the number of persons affected during the epidemic of 1918–19 was 47,333, of whom 4352 died, the mortality being 9·2 per cent. In Prof. N. Rosenberg's[4] report some interesting observations on *Rickettsia prowazeki* are recorded. These organisms were most abundant in the organs of patients who died between the sixth and twelfth day of disease, examinations being conducted between 25 minutes and 6 hours after death. The author claims to have cultured the *Rickettsia* in a medium consisting of a mixture of human ascitic fluid, leucocytes, blood, and filtrate of cultures of *B. proteus* X 19, to which emulsified human brain was added. Growth was first visible on the sixth day. The cultures could not be carried further than the second sub-culture. They were successfully inoculated into guinea-pigs and produced in them a febrile reaction after six to eight days; the organism could be demonstrated in organ smears of these animals. In the human body the organism is said by Prof. Rosenberg to produce resistant "cysts"; reproduction by simple fission and sporulation is described. As regards the ætiological significance of *R. prowazeki*, Rosenberg believes he has complied with two of Koch's postulates necessary to establish its relation to typhus fever, while there still remains to be carried out the final test—viz., the possible inoculation of man. The author further expresses the opinion that the pathogenic agent of typhus is "activated" or lives in symbiosis with the *proteus* bacillus. Dr. M. Tushinsky[9] has tested the Wassermann reaction in 142 cases of typhus, and obtained a positive result in 55 per cent. of the cases. The reaction is most marked at the crisis of the disease, and in cases exhibiting severe cerebral symptoms. In the latter cases, when performing the Wassermann reaction with undiluted cerebro-spinal fluid, positive results were obtained in 33 per cent. of cases. An examination of the meninges of fatal cases has led Prof. N. Anitchkov[14] to the conclusion that an acute serous meningitis or meningo-encephalitis is present in 30 per cent. of the cases. The frequency of this type of meningitis in typhus fever is a valuable diagnostic feature.

Pathological Alterations of the Lymphatics.

An interesting account of the pathological alterations of the lymphatics resulting from typhus fever is given by Prof. S. Shueninov.[15] As a late complication of the disease numerous nodules appear on the chest and extremities. In appearance they simulate lymph-glands, but microscopical examination shows that these nodules represent new-formed and dilated lymphatics, a condition comparable to *lymphangioma simplex*. The nodules are subject to a slow inflammatory process which causes the lumen of the lymphatic to become obliterated by proliferating endothelium and connective tissue. Prof. Shueninov characterises the whole process as a chronic inflammation of the lymphatics, lymphangiectasis presenting a secondary phenomenon. Dr. V. Khalutina[17] records her observations on typhus fever in children; 353 cases entered the hospital, of these 2 died, the mortality being 0·6 per cent., as compared with 9 per cent. of adults in the same epidemic. Children of 12 years of age are most commonly attacked. In older children the disease tended to assume the type seen in the adult. Dr. N. Kouznetsov[18] gives a detailed description of cases of a mild type of typhus fever without eruption; 5·7 per cent. of all the cases were of this type, which occurred chiefly in young persons 14–19 years of age. No less than 5 per cent. of these cases were fatal owing to severe catarrhal pneumonia. Dr. E. Manoylov,[25] investigating the antitryptic power of the serum in typhus fever from the point of view of prognosis and diagnosis, concluded that the antitryptic power of blood-serum is markedly increased up to the tenth to eleventh day of the disease, after which it may remain at this high level or decrease. If there is no decrease, especially if the temperature remains high, the prognosis is unfavourable. He recommends pancreatin for therapeutic treatment, as it tends to lower the antitryptic power, and was successfully employed by him either alone or in combination with pepsin.

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KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of the President and General Council of King Edward's Hospital Fund for London, to receive the accounts and report for the year 1921, was held at the House of Lords on March 28th, when Lord DONOUGHMORE presided.

The Combined Public Appeal.

Lord SOMERLEYTON, before making a statement on the steps already taken to promote the combined public appeal, read the following cable: "Prince of Wales approves of his name as President being used in connexion with scheme and appeal passed by King's Fund Council." Lord Somerleyton stated that since the Council last met on March 8th[1] the organising committee, of which Sir Alan Anderson is chairman, had been constituted and included the Revenue Committee of the King's Fund and representatives of the Hospital Sunday and Hospital Saturday Funds, the Joint Council of the Order of St. John and the British Red Cross Society, the League of Mercy, and the London Regional Committee of the British Hospitals Association, the trustees and treasurers of the Appeal Fund being the Lord Mayor of London, the Governor of the

[1] THE LANCET, March 11th, 1922, p. 548.

Bank of England, the chairman of the London Regional Committee of the British Hospitals Association, and the treasurer of the King's Fund. The organising committee had appointed an executive committee under the chairmanship of Sir George Lawson Johnston, and had appointed as director-general of the appeal campaign Mr. E. S. Shrapnell-Smith, and Captain E. J. C. Chapman as his deputy. The appeal would be launched after Easter and would reach its climax by June. Each hospital on the list of the King's Fund as Voluntary Hospitals Committee for London had been invited to coöperate, and from all quarters the organising committee had received the most cordial assurances of support. The Combined Appeal aimed at raising at least £500,000 needed to pay off the floating debt of London hospitals. Its second object was to secure for hospitals the new subscribers and the additional permanent income to meet the increased cost of working, including moderate and continuous contributions from all classes as recommended by Lord Cave's committee.

On the motion of Lord STUART OF WORTLEY (chairman of the management committee), seconded by Sir WALTER TROWER, a report of that committee was adopted on the subject of expenses for 1921, which, in spite of the increased work, still averaged less than 6¼*d.* in every pound received.

Larger Receipts.

Lord REVELSTOKE (hon. treasurer), in presenting the account of receipts and expenditure and the balance-sheet for the year ending Dec. 31st, 1921, said that the total general receipts in the year 1921 amounted to £252,659 6*s.* 2*d.* Owing to the receipt of several exceptional legacies, these figures showed a considerable increase as compared with those of 1920. During the past year £220,000 had been distributed, an amount exceeding by £20,000 that distributed in 1920: and £25,486 14*s.* 4*d.* had been added to the reserves. It was clear that, if the King's Fund was to be instrumental in ensuring the financial well-being of the hospitals, it must maintain and increase its own permanent income, and it was now proposed to contribute to the solution of the present problem not by making another distribution at the expense of its future income, but by the organisation, at the request of the hospitals and with the aid of the other central agencies, of a great combined public appeal. Lord Revelstoke then moved the adoption of the accounts.

Sir FREDERICK GREEN having seconded, the resolution was carried unanimously.

Lord STUART OF WORTLEY moved the adoption of the report of the Council for the year 1921, which stated that in 1921, even more than in 1920, the history of the King Edward's Hospital Fund was bound up with the history of the crisis of the hospital finances, and the suggested remedies. The total receipts for the year were £270,666 12*s.* 6*d.* Of this £18,007 6*s.* 4*d.* was for capital and £252,659 6*s.* 2*d.* general receipts. The amount distributed was £220,000, being an increase of £20,000 on the ordinary distribution of 1920, the total grants to hospitals in 1921 being £210,000, as against £190,000 in 1920. In view of the financial crisis the distribution committee notified the hospitals in October that only in exceptional cases could they recommend grants for extension or improvement, or consider schemes not already notified to the King's Fund when evidence on this subject was given to Lord Cave's Committee in April. As a result of this policy the amount available for maintenance was increased not only by the £20,000 increase in the total distributed, but also by a decrease of £24,725 in the grants to capital expenditure, or £44,725 in all. In distributing the increased amount available for maintenance the distribution committee took into account the efforts made by the hospitals to increase income or reduce expenditure, since the emergency distribution in July, 1920, and the issue of Lord Cave's report in June, 1921. The grants to consumption sanatoriums in 1921 amounted to £6070, as against £6420 in 1920, and the grant to convalescent homes to £3930 in 1921, as against £3580 in 1920. The total sum distributed amongst hospitals, convalescent homes, and consumption sanatoriums during the last ten years was £2,340,938. Since the foundation of the Fund a total net amount of £3,816,854 8*s.* 5*d.* has been distributed. The average annual distribution during the whole period of 25 years has been £152,674 3*s.* 6*d.* The League of Mercy contributed £15,000 during 1920, and the total received by the Fund from the League since its foundation in 1899 was now £324,000, apart from the sums awarded by the League to institutions outside the area of the Fund's distribution. Legacies received during the year amounted to £79,895 5*s.* 9*d.* During the year the amount spent on the administration of the Fund was £7208 13*s.* 6*d.*, or £2 11*s.* 8*d.* per £100 of the total received. The average yearly outlay in this respect for the whole period since the inauguration of the Fund had been £3225—less than 3¼*d.* in every £1 received.

Special Needs.

The report closed as follows: "Special efforts are required in 1922 to ensure the success of the appeal which the King's Fund is issuing in combination with the hospitals and the other central agencies. The chief needs of the hospitals for 1922 are twofold: (*a*) A large sum of fresh money is needed to tide over the immediate difficulties and to enable the hospitals to qualify for emergency grants from the temporary Government assistance on the pound-for-pound basis. (*b*) Additional permanent income is required to meet the increased cost of working, including moderate and continuous contributions from all classes, as recommended by Lord Cave's Committee."

Viscountess NORTHCLIFFE, having seconded the resolution, the report was carried unanimously.

Lord Cave and Coöperation.

Viscount CAVE, in moving a vote of thanks to the Earl of Donoughmore, said that the report of his (Lord Cave's) Committee was very kindly received by the Government, because in many respects they acted upon its recommendations, although they did not go the whole way. With regard to the death duties, he suggested to the Members of the House of Commons who were on the Council of the King's Fund that it was open to them to see whether the relief from death duties could not, at all events in some measure, be obtained. It was necessary, not only that a considerable sum for the support of hospitals should be raised from the public throughout the country to meet the immediate necessities of the case, but that at the same time provision should be made that the like necessity should not soon recur. He was glad to note that some stimulus had been given by his report to the movement for coöperation between the hospitals and the various central agencies. These agencies had all of them done splendid work, and he knew that some of them, like the League of Mercy, had long coöperated with the King's Fund. He believed in pulling together; and thought that if there were combined effort towards coöperation, not only among the great London funds but among the hospitals throughout the country, great benefit might ensue to the hospitals.

The vote having been seconded and carried, Lord DONOUGHMORE briefly replied, and the meeting terminated.

Greater London Campaign.

The Executive Committee (19, Berkeley-street, W. 1) for the Combined Appeal announces that it has been decided to make arrangements with the London clearing banks and the Bank of England, under which donations will be received at the head offices and all branches of every bank throughout the metropolitan area, as from Easter Tuesday, April 18th. Early in April invitations will be extended to all mayors and chairmen of local councils, within a 15-mile radius of Charing Cross, to set up local committees and to open "lists in aid."

WE are asked to state that Miss E. E. Hewer, to whom the degree of D.Sc. Lond. has recently been awarded, has worked at the London (R.F.H.) School of Medicine for Women for the last six years.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Public Health Administration in Ireland: Retirement of Sir Henry Robinson.

THE Provisional Government automatically took over charge last Saturday of the government offices concerned with the administration of public health in Ireland, together with other machinery of government. In the distribution of duties among members of the Provisional Government, responsibility for the Irish Public Health Council, the Local Government Board, and the office of the Inspectors of Lunatics falls to Mr. William T. Cosgrave, who has been Minister for Local Government to Dail Earann. The office of the National Health Insurance Commissioner passes to the care of Mr. Michael Collins. On Mr. Cosgrave will fall the main responsibility of the care of the health of the people, and he has the reputation of being earnest and of progressive ideas, as well as fair-minded.

The only notable change of personnel reported as yet is the retirement of Sir Henry Robinson, who has been vice-president of the Local Government Board since 1898. As his appointment synchronised with the passing of the Local Government Act, his tenure of high office has covered the entire period during which local government has been in popular hands. Sir Henry Robinson was an able administrator of great skill and tact, fair-minded in his relations to his staff and to officials under the control of the Board. Rumour credited him with a larger share in the direction of the policy of Dublin Castle than the title of his office would suggest. As the official adviser of the Irish Government in matters of health, until the establishment of the Irish Public Health Council in 1919, he must bear some of the responsibility for the relative lack of progress in Ireland as compared with other countries.

Ulster Medical Society: Education and Public Health.

A meeting of this Society was held on March 16th, Dr. R. Hall, the President, in the chair, when a discussion was held on Education and Public Health in view of proposed legislation by the Parliament of Northern Ireland. Dr. H. S. Morrison, M.P., introduced the subject, giving his experience of the conditions of public health and hygiene in the rural districts of Ulster, with special reference to the prevalence of tuberculosis. He was of opinion that the measures at present in operation for the prevention and cure of that disease were ineffective, and that the remedy lay in the dissemination of sound views amongst the people by educational methods. He urged that teachers in schools should have a training in hygiene, and that this subject should form part of the instruction of scholars. He also advocated special care regarding affections of the eyes, ears, throat, and teeth.

A lengthy discussion ensued in which many members of the Society took part. Emphasis was laid upon the necessity for the medical inspection of schools and scholars, the provision of schools conforming to the best hygienic standards, and proper arrangements for the education of defective children.

On the motion of Prof. R. J. Johnstone, M.P., seconded by Prof. J. A. Lindsay, the following resolutions were unanimously adopted:—

1. That medical inspection of children attending elementary schools under the educational authority of Northern Ireland should be mandatory.
2. That schemes dealing with special defects found by the medical inspection should be initiated on lines laid down in the memorandum of the Local Government Board, 1920, modified to suit local requirements.
3. That provision should be made for the education of physically and mentally defective children.

It was agreed that copies of the above resolutions should be sent to the Prime Minister of Northern Ireland, the Ministry of Education, and the Departmental Committee on Education.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

International Congress of Hygiene.

THE International Congress of Hygiene, under the auspices of the Committee of the Propagande d'Hygiène Sociale et d'Education Prophylactique and the Société Française de Prophylaxie Sanitaire et de Morale, already announced in your columns, will be held from Dec. 18th to Dec. 23rd, 1922. This period will coincide with the centennial anniversary of Pasteur's birth. The chief object of the Congress is the propaganda of social hygiene by instruction on moral education and the prophylaxis of diseases. Mr. Paul Appel, Rector of the Paris University, will preside, and physicians, hygienists, moralists, and all those concerned with the education of the young are invited. It is hoped that a permanent scheme of action in the prophylaxis of diseases, and more especially venereal diseases, by scientific and moral education of the people, will be arrived at. Further information and a detailed programme can be obtained from the secretariat of the Congress. The chairman of the various sections of the programme have been maintained as originally proposed:—First Section: General hygiene, tuberculosis, alcoholism, cancer; chairman, Prof. L. Bernard. Second Section: Venereal diseases and social consequences; chairman, Prof. Ed. Jeanselme. Third Section: Prophylaxis of venereal diseases; chairman, Mr. L. Queyrat. Fourth Section: Instruction in sexual matters; chairman, Prof. A. Pinard. Fifth Section: Means of action, propaganda, legislative measures; chairman, Mr. J. Godart. Reports by official delegates to the Congress should be forwarded before May 1st, 1922, to the General Secretary of the Congress, Monsieur Emile Weisweiller, 7, rue Mignon, Paris, VI^e^.

Prostitution in Paris.

An unpleasant picture of prostitution in Paris, as it appears to a doctor charged with the examination of prostitutes, emerges from a recent special number of the *Paris Médical*. Dr. Léon Bizard describes the dispensary in which 100,000 women are examined every year by himself and his three colleagues. The rooms are far too small, and the linen on the examination couches is changed only once in 24 hours after some 500 women have contributed towards soiling it. There are no facilities for sterilising the intruments and the oil used for lubricating the specula is changed only after three days. The first to be examined under these unsatisfactory conditions are the registered prostitutes who have been arrested for failure to comply with police regulations. The women are taken about one o'clock in the morning to the "depôt," next morning, without sleep and scarcely washed; they then are brought before the examining justice, whence they proceed to the examination. Every day there are from 150 to 180. About one-third of this number appear at regular intervals, explaining this regularity by telling the doctor that they have their "coudée." This seems to be an arrangement with the police by which they are left unmolested for some days on condition that they report at a given hour and place for arrest when their "coudée" is up. The police, of course, deny the existence of this system, but Dr. Bizard says that, while the police change, the system clearly continues in force. A treatment centre has been attached to the dispensary and is equipped with all needful material except the drugs, the only available remedy being salicylarsenate of mercury, which the writer says has never cured a single mucous patch.

Of the premises licensed for prostitution which are visited by the dispensary doctors, there are two categories: the *maisons de tolérance*, of which there are some 200, and the *maisons de rendez-vous*, of which there are more than 250. The former are some of them unnecessarily dirty, but otherwise call for no

comment; for the latter medical supervision was first arranged in 1900. More than a million "customers" pass through these houses of assignment every year. Yet no one seems to be responsible for the sanitation of the premises, no doctor is consulted before a licence is granted, and though during the present housing crisis no new houses may be opened, there are many so insanitary that they ought to be shut, even if it were necessary to replace them with new buildings properly supplied with hot and cold water. In conclusion, the writer laments that it should be so easy for a woman to enter this calling. All that is necessary is that she should prove herself healthy and of age; if she is not of age she borrows some certificates from a friend. The number of prostitutes is increasing. Although Dr. Bizard is not himself an abolitionist his article may make many who favour réglementation in France furiously to think.

Childbirth in the Area of Occupation.

In a recent communication to "La Revue Philanthropique" Mr. Cros Mayrevielle, reporting a special study of hospitals and other medical institutions in Rhineland, pointed out the valuable assistance given by "l'Œuvre du Berceau Français à l'Armée du Rhin," which was created in March, 1921. This institution has the same aim as numerous similar institutions in France, which have been organised in order to increase the birth-rate. It is a coöperative insurance to assist soldiers when they have a family. The subscription of a member is proportional to his rank; for a private it is Fr.3 yearly, for a non-commissioned officer it is Fr.6, for an officer it varies from Fr.12 for a second-lieutenant to Fr.48 for a general. When a French woman is confined, if the father of the child is a member of the "Œuvre du Berceau Français," an allowance is granted to the family, medical assistance is given to the mother and all necessary requirements are provided for the infant. The institution is also supported by donations.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Venereal Diseases.

A CONFERENCE summoned by the Commonwealth Prime Minister to consider the effectiveness of means for control of venereal disease was held in Melbourne on Feb. 1st and following days. It consisted of representatives of State Health Departments, of branches of the British Medical Association, and of special hospitals. After a private conference a report was presented embodying certain conclusions and recommendations. The replies to questions concerning legislation were very guarded and vague. Generally speaking, it was affirmed that men had been more successfully brought under treatment than women; that legislation was not equally successful in the notification of private and hospital patients; that it had not been in force long enough to form any reliable idea of its influence in the reduction of venereal disease; and that there was no evidence to show that congenital infections had been reduced. The conference resolved that legislation had not been as successful in awakening professional response in some States as in others, and advised that all medical men be requested to observe notification requirements and other provisions more strictly. It was agreed that impersonal notification be continued, and be required only in infective conditions, and that medical certificates of freedom from venereal disease be legally required by contracting parties before marriage. These certificates are intended to be shown to the clergyman or registrar performing the ceremony. Under the heading of standards of treatment it was recommended that "a minimum total of 2·8 g. of arsenobenzol or its equivalent should be administered during the first four months of treatment, and the mercurial treatment should be as intensive as possible during the whole of the first year." Secondary syphilis was to be treated similarly as regards arsenobenzol in the second year. Certificates of freedom from infection "should not be issued to patients except on the rarest possible occasions, and then in a form which does not lend itself to improper use." The conference and its doings attracted little interest in the medical profession, and none at all from the public.

Bubonic Plague.

The incidence of plague in Queensland appears to be rapidly diminishing, both in rodents and in human beings. In Sydney several cases have been reported from areas outside the original zone of infection. A particularly disturbing occurrence was the very sudden illness and death of a school-girl at Parramatta, some miles out of Sydney. The case was found to be one of plague. The only source of infection suggested was a visit to the city a day or two previously.

Navigation Act.

Under the Commonwealth Navigation Act passengers for inter-State ports are only allowed to travel in vessels owned and registered in Australia. The clauses of the Act requiring medical attendance are now to be put in force. They provide that any vessel engaging in voyages of longer distance than 650 miles, or carrying more than 100 passengers, must have a ship's doctor as a unit of the crew. Ships carrying more than ten persons must provide someone with a certificate of knowledge of first-aid treatment. How such provisions will work out remains to be seen. The prohibition of inter-State passages in oversea vessels calling at local ports is already very unpopular. If the medical requirements of local ships be insisted upon, it will be necessary to fill 15 or 20 appointments at once. But it is extremely doubtful if medical men will be found willing to accept such positions.

Lunacy Administration.

Considerable sensation was caused in Melbourne by the publication of an article in a leading morning newspaper condemning the conditions at Yana Bend Asylum. It was alleged that the buildings had been allowed to fall into decay, that there was no sewerage, and that conditions generally were unhygienic. This asylum is occupied chiefly by idiots—children, adolescents, and old and feeble patients. It was stated that the department proposed to close Yana Bend and transfer the inmates to a new building at Mont Park, but that the latter had been required for military cases, and thus delayed the transfer. It is admitted that very little repair or painting has been carried out at Yana Bend, but it was contended that the newspaper report was exaggerated. The Chief Secretary has called for an official report. The medical staff has repeatedly, it is said, drawn attention to unsatisfactory conditions, but no money has been made available for their rectification.

Increase of Medical Practitioners.

At the annual final examinations in medicine and surgery at the Melbourne University, to be held in March, no fewer than 120 candidates will be presented. This number is practically drawn from Victoria alone, for Sydney and Adelaide provide for students in N.S. Wales and S. Australia.

Dr. J. F. Wilkinson (late hon. lecturer in clinical physiology in the University of Melbourne), who has left for a visit to America and Great Britain, and Dr. J. W. Dunbar Hooper (late hon. secretary to the Victorian Branch B.M.A.), who leaves for London next month, have been appointed special representatives of the Victorian Branch at the annual meeting of the B.M.A., to be held in Glasgow in 1922.

Feb. 27th.

No additional cases of small-pox have been notified in Oldham during the week.

Correspondence.

"Audi alteram partem."

PERNICIOUS VOMITING OF PREGNANCY.

To the Editor of THE LANCET.

SIR,—The article by Dr. A. F. Hurst on the Hysterical Nature of So-called Pernicious Vomiting of Pregnancy, which appeared in your issue of March 18th, puts forward such a serious misrepresentation of obstetric teaching and practice that I feel it ought not to be allowed to pass without correction. I have delayed writing to you in the expectation that some other obstetric teacher would undertake this task.

Dr. Hurst, after correctly stating that cases of severe vomiting in pregnancy are usually divided into three classes—reflex, nervous or hysterical, and toxæmic, writes :—

"It is generally agreed that the only means of diagnosing between the two latter forms is by estimating the ammonia index of the urine." . . . "According to Whitridge Williams, if it exceeds 10 per cent. a diagnosis of toxæmic vomiting can be made with certainty." . . . "Whitridge Williams lays down the law that this increase of the ammonia coefficient to 10 per cent. affords an urgent indication for the prompt termination of pregnancy." . . . "*This chemical indication for emptying the uterus is now generally adopted.*" (The italics are mine.)

Dr. Hurst thus asserts that obstetricians rely upon a rise in the ammonia coefficient to diagnose toxæmic vomiting, and that they "empty the uterus" if the coefficient reaches 10 per cent. If Dr. Hurst had taken the precaution of seeking the usual sources of information, he would not have felt it necessary (and I am sure he must have done it with reluctance) to attribute to obstetricians such absurdities as these. The statement in the last sentence quoted from his article is totally wrong. I do not personally know a single obstetric teacher who adopts this practice, alleged to be general, and having looked up a recent edition of six English and American text-books of midwifery, I cannot find such a statement in any one of them.

Dr. Hurst's account of Whitridge Williams's views is based upon his first paper on the subject published in 1906. Much water has flowed under the bridges in 16 years, and the ammonia coefficient with it. If Dr. Hurst had consulted Williams's Text-book of Midwifery (1919) he would have learned that the author's views have been greatly modified by experience. In my own text-book, as far back as 1911, I stated that prolonged vomiting and limitation of food of themselves produced a rise in the ammonia coefficient, which consequently could not be regarded as diagnostic of the toxæmic variety (third edition, p.111).

Being desirous of setting obstetricians on the right lines, Dr. Hurst goes on to state, in disregard of the perils of the universal affirmative proposition "all cases (of vomiting in pregnancy) are nervous," and expresses satisfaction that "such an authority as Mr. J. S. Fairbairn entirely agrees with me." Mr. Fairbairn is, however, one of the authors of the well-known text-book of the "Ten Teachers," in which a full description of the toxæmic variety is given with the clinical and post-mortem data by which it may be recognised. Is it possible that Dr. Hurst has been misinformed upon this point also?

Psychotherapy is a recent branch of the art of medicine, and much may be forgiven to the zeal of a pioneer seeking fresh fields to conquer. We shall all welcome any help psychotherapy can give us in dealing with hysterical vomiting, and my sole purpose in writing is to clear obstetricians from the suspicion of holding the views which Dr. Hurst attributes to them.

I am, Sir, yours faithfully,

Queen Anne-street, W., April 3rd, 1922. T. WATTS EDEN.

To the Editor of THE LANCET.

SIR,—In his valuable article Dr. Hurst gives the reasons for his opinion that the pernicious vomiting of pregnancy is of hysterical origin and not toxæmic in nature. He quotes Whitridge Williams and advances good arguments to show that this distinguished obstetrician is in error when he claims that the toxæmic form of the vomiting of pregnancy can be diagnosed from nervous vomiting by the estimation of the ammonia coefficient. The opinions of Whitridge Williams referred to by Dr. Hurst are given in papers that were published in 1905 and 1906, but in a later paper, published in the *Journal of Obstetrics and Gynæcology*, 1912, the following paragraphs occur :—

"I admit that increased experience had demonstrated the necessity for a radical revision of my views concerning the significance of a high ammonia coefficient. In the first place, I have to acknowledge that one of 10 or 15 per cent. does not justify a diagnosis of toxæmic vomiting; and in the second place, that even much higher values do not necessarily indicate the existence of a specific toxæmia.

My experience has taught me that many women suffering from neurotic vomiting gradually pass into a condition of profound inanition, and in such cases examination of the urine may reveal a high ammonia coefficient, which is probably a manifestation of the existence of a starvation acidosis, as is indicated by the presence of acetone, diacetic and oxybutyric acid."

Nevertheless, Whitridge Williams maintained that some cases are toxæmic in nature and, if treatment by feeding and suggestion failed to stop the vomiting, he induced abortion. I do not know what views he holds at the present time, but I trust he is no longer in favour of the toxæmic theory.

For the past 20 years I have regarded the condition as a neurosis and treated it accordingly, although not by psychotherapy as ordinarily practised. I send the patient into hospital or nursing home, tell her she will soon be well, and order ordinary diet. I explain to the patient's nurses the nature of the disease and ask them on no account to place a bowl at the bedside. The vomiting usually ceases immediately and recovery quickly follows.

I am, Sir, yours faithfully,

Leeds, April 3rd, 1922. CARLTON OLDFIELD.

THE CAUSATION OF RICKETS.

To the Editor of THE LANCET.

SIR,—In a communication delivered by Prof. D. N. Paton to the Glasgow Medico-Chirurgical Society and published in abstract in THE LANCET of Feb. 25th (p. 377) there occurs the statement :—

"Recently an attempt has been made to prove that it [rickets] is *caused* by the absence of a hypothetical anti-rachitic factor, probably identical with the fat-soluble A substance. The author of this contention has now abandoned this view, and has reverted to the long-accepted theory that various errors of diet predispose to rickets."

As a general rule I think it is inadvisable for an investigator to reply to misstatements or criticism by correspondence independently of his scientific publications; but the above sentences, occurring in the medical press, and therefore read almost exclusively by medical readers who cannot have the opportunity of keeping in close touch with all medical research, are so misleading that they demand my attention. For I understand that, although not referred to by name, I am the "author of this contention."

What I specially wish to deny is the statement that I have put forward certain views on rickets and have now abandoned them. The sentences quoted above suggest that there has been a catastrophic break in my research on rickets involving the disproof of the main facts and the throwing over of ideas previously held and published by myself. This is a false suggestion. They suppress the fact that even in my lectures on rickets in 1918,[1] although they only represented a summary of my work up to that time, I made it clear that rickets could not be held to be a deficiency disease of the same nature as scurvy, for the accessory food factor which played an important part in the ætiology of rickets was more influenced in its action by other elements of the diet

[1] THE LANCET, 1919, i., 407.

and the environment than appeared to be the case with the antiscorbutic vitamin. In the second lecture of the first publication I stated:—

"For we know something of the part played by accessory food factors in such deficiency diseases as beri-beri and scurvy, and we know something of the part played by these substances in growth, but in the case of rickets we are apparently up against a combination of both a deficiency disease and growth, rickets, in fact, being a disease accompanying growth."

Again, in the same lecture I stated:—

"Since, further, the dietetic problem is one of balance, foodstuffs which contain no anti-rachitic factor cannot be considered as neutral, but as positively rickets-producing, for the more of them that is eaten the greater is the necessity for foods containing the factor. It is probable that bread is the worst offender."

Even the effect of exercise and its relation to the dietetic theory of rickets I mentioned in the first publication and discussed at greater length in the second publication,[2] and the views on this point that I advanced then are substantially the same as I hold to-day. How near all these ideas approximate to my later views can be seen in my last and more complete publication on the subject of rickets—viz., Special Report Series, No. 61, Medical Research Council.

Research has only touched the edge of the subject, and the amazing amount of work on rickets now being started in America and elsewhere may soon necessitate modification and extension of my published views as to the process of events occurring in this disease. It is possible that the deductions made from my experimental work on rickets may prove absurd, but I am not convinced that this has yet happened, nor have I seen any reason to abandon my earlier published views.

I am, Sir, yours faithfully,

EDWARD MELLANBY.

The University, Sheffield, March 28th, 1922.

PROSTATECTOMY AT ADVANCED AGE.

To the Editor of THE LANCET.

SIR,—With reference to Mr. J. B. Macalpine's article in your last issue on successful prostatectomy at 90 years, in which he states that he has not been able to find in the literature a record of a prostatectomy at so advanced an age, I would like to give a brief record of a patient operated on by myself. He was an old hunting man well advanced in his ninety-first year, and his vigorous constitution was illustrated by the fact that he was accustomed to sing "John Peel" in a lusty voice every morning in his bath. For some years he had been troubled with irritability of the bladder and dribbling. One day he was seized with acute retention of urine. A catheter was passed and he stated that he had never been so insulted in his life and refused to have such a thing done again. He said that he had heard an operation could be performed for this condition and told his medical adviser to send for a surgeon at once. I was called in and performed a prostatectomy in two stages. He healed up satisfactorily in five weeks from the first operation without any complications. Thereafter he could pass his water with perfect ease and control, and was able to return to his hunting. He died of influenzal pneumonia some two years after his operation. Some men at the age of 90 are more vigorous and better fitted to stand an operation than many men of 75.

I am, Sir, yours faithfully,

Harley-st., W., March 31st, 1922. FRANK KIDD, M.Ch.

To the Editor of THE LANCET.

SIR,—On Feb. 27th, 1920, I performed the operation of prostatectomy on a man aged 89 years and 2 months, in the Petersfield Cottage Hospital. It could not be considered a favourable case. The patient had been catheterised for some days and was sent into hospital because an instrument could no longer be passed though several forms were tried. On admission the bladder was found distended, nearly reaching the umbilicus, and relief was urgent. The patient was anxious for anything to be done to relieve his pain and left himself in our hands. The first thought, owing to the patient's great age and feeble condition, was suprapubic drainage. Mr. R. G. Cross administered the anæsthetic, and the patient took this so well that it seemed a pity not to do a total enucleation when we had the bladder open. Subsequent events justified the decision, for he made an uneventful recovery and is now, more than two years after the operation, in good health, free from urinary trouble and able to get about.

I am, Sir, yours faithfully,

W. P. PANCKRIDGE.

Petersfield, Hants, April 4th, 1922.

[2] Ibid., 1920, i., 550.

B-VITAMIN AND PNEUMOCOCCAL INFECTION.

To the Editor of THE LANCET.

SIR,—Though the organismal theory of beri-beri is now of historical interest only, there is still no satisfactory explanation of the frequency with which bacteria attack the tissues of animals living on a diet deficient in B-vitamin. In an attempt to determine the exact nature of the rupture in the defence mechanism resulting from a deficiency of vitamin B, experiments were carried out on pigeons with the pneumococcus. As is well known, the pigeon is practically immune to the action of the pneumococcus even when it is introduced intraperitoneally in relatively enormous doses. In normal pigeons the pneumococci have completely disappeared from the peritoneal cavity in from three to eight hours after the injection. The cause of this destruction of pneumococci has not been satisfactorily explained, though there is some evidence to show that the pneumococcus is rapidly killed at 107–108° F., temperatures which, of course, are normal for the healthy pigeon. Strouse[1] (1909), acting on this suggestion, reduced the pigeon's temperature by subcutaneous injections of pyramidon and then injected pneumococci intraperitoneally, with the result that the bird died in a few hours with a marked pneumococcal peritonitis.

These experiments with pyramidon were repeated. A normal pigeon with a cloacal temperature of 106·2° F. was given a subcutaneous injection of 0·45 g. of pyramidon. Two hours and a half later, when its temperature was 101·2°, it was inoculated with four blood agar slope cultures of pneumococcus suspended in saline. The pneumococcus, which was of type II., was originally isolated from a case of pneumococcal meningitis, but had been grown for some months on laboratory media. No attempt was made to heighten its virulence by animal passage. The pigeon died 31 hours later and on post-mortem examination showed an extensive exudate into the peritoneal cavity. The exudate, which was swarming with pneumococci, contained a large number of polymorphonuclear leucocytes in various stages of degeneration. There did not appear to be any phagocytosis of pneumococci. The pneumococcus was also recovered in pure culture from the heart blood. The administration of 0·45 g. of pyramidon subcutaneously or the intraperitoneal injection of the same dose of pneumococci was without any effect on pigeons.

It is well known that one of the effects of a diet of polished rice on birds is to bring about a reduction in the body temperature, though whether by a direct action on the central nervous system or by its retarding effect on all metabolic processes is at present unknown. The reduction in body temperature begins during the first week of the polished rice diet and is progressive, until, when the temperature is 100–101°, the bird dies with the well-known nervous symptoms.

Four pigeons were placed on a diet of polished rice until their temperatures were reduced to between 103–104° after from 21 to 26 days on the rice diet. They were then each inoculated intraperitoneally with six blood agar slope cultures of the pneumococcus, while four control pigeons were similarly inoculated. Death took place in the beri-beric birds in from 9 to 36 hours after the inoculation, while the control birds showed no untoward symptoms. None of the beri-beric birds showed any symptoms of paralysis either before or after the injection of pneumococci. In each instance the beri-beric birds showed a considerable amount of fibrinous exudate in the abdominal cavity, while the pneumococcus was isolated in all four cases in pure culture both from the

[1] Strouse: Journ. Exp. Med., vol. xx., p. 743.

abdominal cavity and from the heart blood. Two of the control pigeons were killed 36 hours after the injection. In both cases the abdominal cavity and heart blood were sterile.

These experiments definitely show that certain diets can render an animal susceptible to an organism to which under normal circumstances it is entirely immune. The reduction in temperature would seem to be the main factor in decreasing the resistance, though possibly the degenerative changes which occur in the bone marrow of pigeons fed on polished rice may also play some part, since it was noticeable that in the beri-beric birds the leucoblastic reaction in the bone marrow was less marked than in the pigeons with their temperature reduced by pyramidon. Further experiments are at present being carried out on the resistance of pigeons on deficient diet to other species of bacteria. It is of interest that in uncomplicated cases of beri-beri in man the temperature is often subnormal.

I am, Sir, yours faithfully,

G. MARSHALL FINDLAY,
Lecturer on Pathology in the University of Edinburgh.
Royal College of Physicians' Laboratory, Edinburgh,
March 27th, 1922.

THE GASTRIC JUICE AFTER THE AGE OF FIFTY.

To the Editor of THE LANCET.

SIR,—In an annotation in your issue of March 25th on the Effects of Alcohol on the Stomach on p. 597 appears the statement that Dr. A. O. Haneborg had found that "about every other apparently healthy person over the age of 50 had little or no free hydrochloric acid in the stomach." If such is the case in Christiania it certainly is not in England, as the following figures, based on an analysis of over 340 consecutive fractional test-meals performed for Dr. A. F. Hurst, 200 at New Lodge Clinic and 140 at Guy's Hospital, will show:—

Aged 50 and over	"Little or no free HCl"	26/104	= 25%
	Hyperchlorhydria	46/104	= 44%
Aged under 50	"Little or no free HCl"	57/237	= 24%
	Hyperchlorhydria	58/237	= 24%

I am, Sir, yours faithfully,

JAMES R. BELL, M.D. Melb.
Guy's Hospital, London, S.E.1, March 31st, 1922.

MEDICAL ORTHOPÆDICS: THE NEED FOR CLINICS.

To the Editor of THE LANCET.

SIR,—I should like to support as strongly as possible your plea for a continuation of the fine work in medical orthopædics commenced in the British military hospitals. The fruitful coöperation of physician and surgeon was nowhere better illustrated than in the departments for physical treatment in our war hospitals. Special surgical and medical advice, with systematic physical treatment (heat, cold, manipulations, exercises, electricity) were applied for the restoration of function: (1) in wounds and injuries, (2) in medical cases—rheumatism, arthritis, and circulatory and nervous disorders. Thousands of injured men passed through the "Red Cross Clinic for the Physicial Treatment of Disabled Officers" and the physical departments at the Orthopædic Hospital at Shepherd's Bush. The benefit to the men under treatment was manifest, and perhaps the indirect influence and example of those pioneer institutions have been equally important.

Your leading article of March 18th, is a timely reminder to the profession that the experience gained in handling the disabilities of war ought to be applied to the problems of civil practice, which are essentially the same. What is true of arthritis is true of other forms of disablement. "With a more complete system of orthopædic treatment, such as might well be instituted in connexion with Poor-Law infirmaries, much of this disability would be alleviated and much industrial capacity restored." And why stop short at Poor-law infirmaries? Are not arthritic, traumatic, paralytic, cardiac, and neurasthenic cases met with everywhere? Do we not every day in London feel the want of a well-equipped clinic, where, under the advice of a specialist visiting staff, new appliances could be provided and appropriate physical treatment given both in surgical and medical cases? Unfortunately, some excellent institutions for disabled soldiers were closed down and dismantled at the end of the war, without much regard to the needs of the civil population. All the appliances at the officers' clinic above mentioned were made over to the Ministry of Pensions, and with the measuring instruments and records have been dispersed. Absit omen. It is to be hoped that the more elaborate installations at Shepherd's Bush will now be permanently devoted to medical and surgical orthopædic treatment, for which but scanty facilities exist.

We can now surely realise that the re-education of disabled men and the restoration of their earning capacity is not merely a war-time problem. Convalescent and special hospitals, spas, re-educational centres, orthopædic or physical clinics, with the best possible advice, are all necessary if we are to cope with industrial disabilities, and indeed with invalids in all walks of life. But let it be remembered that equipment is comparatively easy to provide; sound organisation must follow, and that a right staff is the most important of all.

I am, Sir, yours faithfully,

R. FORTESCUE FOX.
Devonshire-place, W., March 21st, 1922.

ESTIMATION OF PHYSICAL FITNESS:
THE EFFECT OF DIAPHRAGMATIC TRAINING.

To the Editor of THE LANCET.

SIR,—There are points in Dr. A. A. Mumford's article with the above title in THE LANCET of March 11th which I think require criticism. The method of estimation of respiratory efficiency by examination of regional movements of the chest is of little value, as respiratory efficiency depends, to a very great extent, on the efficiency of diaphragmatic respiration, and it is only by efficient diaphragmatic respiration that the whole lung can be ventilated. The apparatus described by Dr. Mumford, though probably extremely useful in examination of the chest in disease, fails to give any indication as to the efficiency of the diaphragm and therefore fails to give any indication as to respiratory efficiency, which is so closely allied to physical fitness.

Movement of the lower thoracic region is not diaphragmatic breathing, although Dr. Mumford alludes to it as "so-called diaphragmatic breathing." In properly trained and efficient diaphragmatic breathing the lower ribs should hardly move at all, and the downward and forward thrust of the diaphragm should be seen in the epigastrium only. The movement in this region in expiration is also most important as an aid to the circulation and abdominal tone. It is surprising to see that Dr. Mumford found that the supraclavicular and manubrium regions moved most freely in subjects accustomed to make highly emotional efforts as in singing. The only explanation is, that the singers examined must have been badly taught, as they must have been accustomed to rely on accessory muscles of respiration, instead of the primary one—viz., the diaphragm. The type of singer who is taught to produce his effect by costal breathing never reaches a very high standard, as it is impossible to get the same power, resonance, or breath control as can be obtained by proper training in diaphragmatic breathing. In training the diaphragm the exercises should always be rhythmic. The value of diaphragmatic training as the true

means to acquiring respiratory efficiency can be best seen in the case of children who have suffered from tonsils and adenoids, and have consequently suffered from inefficient respiration, with all its attendant evils. They require to be taught to breathe; and with proper training in diaphragmatic respiration their circulation is augmented and metabolism is increased, with marked and rapid improvement in their condition.

I do not, of course, pretend that, to obtain respiratory efficiency, the diaphragm alone should be trained and the accessory muscles entirely neglected, but the fact remains that it is only by movements of the diaphragm that the whole lung can be ventilated, and that movements of the diaphragm can be increased and controlled by proper training.

I am, Sir, yours faithfully,

C. CASSIDY, M.B., B.Ch. Camb.

Gloucester Walk, W., March 25th, 1922.

ESTIMATION OF PHYSICAL FITNESS:

CLINICAL USE OF THE SPIRIT-LEVEL.

To the Editor of THE LANCET.

SIR,—An annotation on the use of the spirit-level in chest examinations, which appeared in THE LANCET of Jan. 21st, leads me to make a few additional observations. In the course of research work on orientation of the eyes, head, spine, and lower limbs in users of the periscope and gun-sighting telescopes, and in observations on some asthenopic scholars, I made use of the spirit-level as an indicator of slight degrees of asymmetry of shoulders and spine. The instrument which I employed is called a "notoscope"[1] and consists of a curved glass tube, with fluid meniscus (bubble)—the tube being furnished at each end with a flanged rubber buffer, notched at summit position of meniscus. On applying the instrument, changes in position of the meniscus enable one to appreciate lateral curvature of the spine before the advent of obvious dropped shoulder, lopsidedness or notalgia, and this without stripping the patient.

To apply the preliminary test the subject sits squarely on a chair, feet firmly planted. The surgeon is seated in front and hands the notoscope, steadying it the while, to the patient, who grips each rubber end with thumb and two fingers of either hand, forearms semi-flexed, elbows touching the thorax. The meniscus is then brought to zero, the breath being held. The patient is now told to inspire, when lateral curvature is indicated by the meniscus travelling towards the side of less restricted movement.

All scholars giving a positive result in the preliminary test are stripped and directed to stand with feet well apart, for examination of the spine and spinal movements, a tergo. The surgeon holds the notoscope steadily between the thumb and index finger of either hand, his abducted fingers resting on the patient's acromion and scapula spine (R and L) and brings the meniscus to zero position (resting phase); now the patient is told to inspire, and the meniscus swings over as in the preliminary test (positive result). If the breath be held at top of inspiration and the notoscope be then rotated on its short axis, until the meniscus returns to zero, such rotation provides definite angular measurement of the defect in range of movement of one side.

Remedial exercises introduced early by the application of this test may prevent tedious treatment at a later stage, and the spirit-level is useful in estimating the progress of treatment. The notoscope, it may be added, is portable and less bulky than a fountain pen.

I am, Sir, yours faithfully,

R. J. E. HANSON,
Hon. Consultant, Admiralty Illumination Committee.

Oxford and Cambridge Club, London, S.W. 1,
March 28th, 1922.

[1] From Mr. H. Kemp, 9, Thavies Inn, E.C. 1.

TREATMENT OF SCOLIOSIS BY REMEDIAL EXERCISES:

THE SKILLED AND THE QUACK "RUBBER."

To the Editor of THE LANCET.

SIR,—The annotation in your issue of March 18th (p. 545) on the above subject referred to a meeting of the Section of Orthopædics of the Royal Society of Medicine at which it was proposed, from the chair, that the Council of the Chartered Society of Massage and Medical Gymnastics be approached to form a committee to discuss the whole subject with representative medical men; and later, the hope was expressed that representatives of the Ling Association might also be invited to join in this conference. As a coöpted member of the Council of the former, and as an honorary member of the latter, may I express the deep sense of gratification felt by both at this public recognition of their status by medical men able to judge of services rendered in medical work. Would that this recognition were more general amongst medical men! Constantly we are told of the inefficiency of massage and other forms of physical treatment; but no less often do we hear that medical men make no inquiries as to the qualifications of those to whom the work is entrusted. Thus the highly trained and skilled physical therapist suffers untried, in the general condemnation often justly applied to the unqualified "rubber." A register is kept by the Chartered Society (157, Great Portland-street, W.) and by the Ling Association (10, Mecklenburg-square, W.C.) of their qualified members, and will be sent by the secretary to any medical practitioner on request. Both also maintain an employment bureau from which prompt information can always be secured as to the names and addresses of their qualified members in any area.

To be proficient in physical treatment no amount of personal or natural gift suffices. The essential training is long and strenuous: to employ those who have not had it is to court disaster. May I, therefore, plead through your columns for the protection of our patients from the unqualified—i.e., the quack physical therapist? Also, for a wider recognition, so freely and ungrudgingly given by the Section of Orthopædics of the Royal Society of Medicine, of the members of the two bodies to whose efforts medical men and the public owe far more than is generally appreciated.

I am, Sir, yours faithfully,

JAMES MENNELL.

Park Crescent, Portland-place, W., March 31st, 1922.

BRISTOL ROYAL INFIRMARY.—At the annual meeting of the governors of this institution a deputation was received from the workpeople of the Imperial Tobacco Company, to present to the infirmary a sum of money collected from the tobacco factories to purchase an electrocardiograph. There is a general desire on the part of the subscribers to this munificent gift that it shall be made available for the patients of the other institutions as well as of that in which it will be housed.

COLLECTIONS FOR HOSPITALS IN MANCHESTER.—The Manchester and Salford Saturday and Convalescent Homes Fund and the Manchester hospitals have agreed upon a scheme to raise funds by a systematic collection. It is agreed that in raising funds from employers and workmen at works no attempt is to be made to deprive hospitals of donations or existing subscriptions or of the benefit of collections already organised or arranged from workmen for the benefit of a particular hospital; but no new collections of the kind are to be organised or arranged by any hospital without the consent of the joint committee. This will consist of 16 persons, eight elected by the executive committee of the association and eight by the representatives of the hospitals. At the annual meeting held in Manchester on March 31st it was stated that the income for the year had been £14,843, as against £19,398 in 1920. In 1921 the workmen's weekly contributions for convalescent homes amounted to £10,528 and the sum for hospitals to £4121. The falling off in the income was attributed to the abnormal amount of unemployment.

Medical News.

UNIVERSITY OF LONDON: REPORT OF UNIVERSITY COLLEGE.—The annual report of the committee for the session 1920–21 shows that the total number of students enrolled was 3143 (1835 men and 1308 women), of whom 2408 (1506 men and 902 women) were taking day courses. These included 432 (326 men and 106 women) post-graduate and research students. 145 students took university degrees during the year, of which 33 were higher degrees; 89 students obtained diplomas, 21 in public health. The new building for anatomy, histology, and embryology, provided by the Rockefeller gift, is expected to be ready for occupation in March, 1923.

UNIVERSITY OF BIRMINGHAM.—A post-graduate course of lectures and demonstrations on Crime and Punishment will be held from May 15th to 26th. Lectures will be delivered by Dr. Hamblin Smith, Dr. W. A. Potts, Dr. Percy Hughes, and Dr. Maurice Nicoll. Demonstrations will be given at the Mental Deficiency Office, Barnsley Hall Asylum, H.M. Prison, Monyhull Colony, and Great Barr Hall Park Colony. The fee for the course is £5 5s. Further particulars and a detailed programme of the course may be obtained from the University, Edmund-street, Birmingham.

UNIVERSITY OF DURHAM.—At the convocation held on March 25th the following degrees were conferred:—

Doctor of Medicine for Practitioners of 15 Years' Standing.—David J. Lewis and Joseph L. Meynell.

Bachelor of Medicine and Bachelor of Surgery.—Alan Angus, Francis J. Benjamin, Walter N. Crowe, Cecil C. Carr, James F. Coltman, Robert A. McKinnel Dickson, Richard L. Dagger, Edgar R. Dingle, Barbara M. Grinling, Giles A. M. Hall, Leonard Hunter, Joseph Jackson, Robert W. Locke, Thomas S. Storey, Louis W. Studdy, Sydney J. C. Smith, Gladys Stableforth, Weldon P. T. Watts, Olive C. Wilson, and Philomena R. Whitaker.

Licence in Dental Surgery.—Selby Hutson, Stephen G. Mackay, Robert H. Reay, John N. Slack, James W. Vasey, and Gladwyn Williams.

UNIVERSITY OF MANCHESTER.—The trustees of the Sam Gamble Scholarships are prepared to award in June next five or more scholarships tenable for one year and of the annual value of not less than £40. These scholarships are instituted for the benefit of women students preparing for the degrees of M.B. and Ch.B. of the University and who require financial assistance to enable them to complete their course of study.—Prof. J. W. Smith has intimated his intention to resign the chair of Systematic Surgery, which he has held since 1911. The council have accepted the resignation with regret and have expressed their hearty appreciation of the services rendered by Prof. Smith since he joined the University staff in 1888.

At examinations held recently the following candidates were successful:—

DIPLOMA IN PUBLIC HEALTH.

Part I.—Martha F. Barritt, Winifred I. Doherty, Florence M. L. Graham, W. H. Leigh, J. K. Lund, J. G. McKinlay, Constance Snowdon, Doris A. Taylor, Mary I. Turner, Marie Wardman, and Frances G. Wilcocks.

Part II.—James Brooks and Constance Snowdon.

CERTIFICATE IN SCHOOL HYGIENE.

J. W. Chadwick.

UNIVERSITY OF ABERDEEN.—At the graduation ceremony on March 30th the following degrees were conferred:—

Degree of LL.D.—Thomas Wardrop Griffith, Professor of Medicine, University of Leeds.

Degree of M.D.—F. W. C. Brown, J. G. Dauson, M. Y. Garden, and R. D. Lawrence.

Degree of Ch.M.—William Brander.

Degrees of M.B. and Ch.B.—William J. Adam, Agnes M. E. Benzie, Jack H. Greite van Blommestein, Leila Savoja Chatterji, Evelina I. Corbett, Hugh W. Corner, John K. Cumming, Thomas J. Davidson, *Eric G. A. Don, Charles Donald, Dorothy J. Dow, Griselda A. Dow, John A. S. Emslie, Samuel Feinstein, *Frank Forman, *James F. Fraser (second-class honours), Jane H. Galloway, Frederick W. Gordon, Eric D. Gray, James Grieve, Hugh R. Lambie, †John Ledingham (second-class honours), John Lumsden, Elizabeth G. McCurrach, William R. McGlashan, John McLeod, Margaret M. Mills, John Milne, Alfred W. J. C. Mitchell, Peggy L. Mitchell, Barbara R. A. Morton, Andrew J. Murray, Charles Penny, *Sydney S. Proctor (second-class honours), Percival Ross, Mildred M. G. Russell, Israel Sacks, Beatrice M. Sellar, William F. Shearer, Katherine C. Spence, *Donald MacRae Stewart (second-class honours), Christina Stuart, Alastair Tait, James S. Walker, and Annie K. Wattie (second-class honours).

Diploma in Public Health.—James S. Anderson and Frederick Ritchie.

* With distinction. † With much distinction.

The following students gained prizes and medals: Fife Jamieson Memorial Gold Medal in Anatomy, Charles S. D. Don; Keith Gold Medal for Systematic and Clinical Surgery, William L. Hector; Shepherd Memorial Gold Medal for "The Principles and Practice of Surgery," Redvers N. Ironside; Dr. James Anderson Gold Medal and Prize of £5 in Clinical Medicine, Frank Forman and William L. Hector (equal); Matthews Duncan Gold Medal in Obstetrics, Allan W. Downie; Alexander Ogston Prize in Surgery, Edith M. Macrae.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At examinations held recently the following candidates were successful:—

PRIMARY FELLOWSHIP EXAMINATION.

Attracta Halpenny, Sydney O'Neill, and Cecil J. A. Woodside.

FINAL FELLOWSHIP EXAMINATION.

Edward D'Arcy McCrea.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.—At recent examinations the following candidate were successful:—

THIRD PROFESSIONAL EXAMINATION.

T. G. Brown, P. J. Clarke, E. Connolly, S. G. Gilmore, H. J. Lee, P. J. C. McDonnell, P. H. M. McEntee, J. F. O'Connor, J. M. O'Donnell, M. J. O'Riordan, S. Plunkett, R. D. Seale, and M. J. Walsh.

FINAL PROFESSIONAL EXAMINATION.

Thomas A. Bennett, Wilfrid A. Benson, Peter P. Connolly, Michael B. Devane (honours), Dorothy H. Douglas, Joseph Eliassoff, Charles J. Ellison, Cornelius V. Falvey, Samuel Griffin, Abraham Hayman, Heyman Levison, Bernard J. Mulligan, Anna J. O'Reilly, Richard B. Shaw, Raphael Sherowitz, and Horace E. W. Waters.

DIPLOMA IN PUBLIC HEALTH.

Valentine R. O'Connor.

SPECIAL POST-GRADUATE COURSE AT FRANZENSBAD. From Sept. 22nd–24th, a special course in heart disease and diseases of women will be given at Franzensbad, Czecho-Slovakia, by distinguished local and foreign teachers. The course follows immediately on the annual meeting of German Naturalists at Leipzig. The principal bathing season at Franzensbad is from May 1st to Sept. 30th, the bath service continuing until the end of October. Inquiries should be addressed to the Stadthaus, Franzensbad.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—A short course in general medicine, in which members of the staffs of various hospitals will take part, will be held from May 1st to 13th. The course will include clinical lectures and demonstrations in pulmonary affections, diseases of the heart, dermatology, mental disorders, children's diseases, pathology, &c., covering a full day's programme for the two weeks. A course of six lecture demonstrations on gastro-intestinal affections in children will be given at the "Children's Clinic," Western General Dispensary, on Mondays and Thursdays from May 15th to June 1st, at 5 P.M. Copies of the syllabus and other particulars regarding fees, &c., of both of the above courses and of the Bulletin will be forwarded on application to the Secretary to the Fellowship of Medicine, 1, Wimpole-street, W. 1.

During May, June, and July it is hoped to hold a lecture at the House of the Royal Society of Medicine once a week at 5 P.M. Sir Arbuthnot Lane, Sir Humphry Rolleston, and others have promised to contribute, and the full programme will be announced shortly. These lectures will be open to all medical men.

ROYAL INSTITUTION.—Lectures at the Royal Institution after Easter will be resumed on Tuesday, April 25th, when Sir Arthur Keith will begin a course of three further lectures on Anthropological Problems of the British Empire; Series II., Racial Problems of Africa. The Tyndall lectures will be delivered this year by Prof. W. Bulloch on Tyndall's Biological Researches and the Foundations of Bacteriology; and Sir Percy Sykes will give two lectures on Persia. On Thursday afternoons there will be two lectures by Prof. K. H. Barton on Audition and Colour Vision; two by Prof. F. Keeble on Plant Sensitiveness. On Wednesday, April 26th, Prof. D. H. MacGregor gives the first of two lectures on Industrial Relationship. On Saturday afternoons there will be two lectures by Prof. C. W. Richardson on the Disappearing Gap between the X Ray and Ultra-Violet Spectra. The Friday evening discourses will be resumed on April 28th, when Prof. Arthur Harden, F.R.S., will deliver a discourse on Vitamin Problems. On May 5th Dr. Michael Grabham will give a lecture entitled Biological Studies in Madeira. On May 12th, Dr. H. H. Dale, F.R.S., will speak on the Search for Specific Remedies, and on May 19th Sir William Bragg, F.R.S., will describe the Structure of Organic Crystals. Another lecture of medical interest will take place on June 9th when Mr. Joseph Barcroft, F.R.S., will speak on Physiological Effects at High Altitudes in Peru. These Friday evening discourses are addressed solely to members and their friends. Proposal forms and prospectus will be supplied on application to the Assist. Secretary, 21, Albemarle-st., London, W. 1.

HOSPITALS' COMBINED APPEAL.—The first move in the great combined appeal for the united voluntary hospitals of Greater London, more than 100 in number, is to be taken on Easter Tuesday, when some 950 banks, inclusive of head offices and branches, will open donation accounts. The banks will themselves issue official receipts on behalf of the trustees and treasurers, who are the Lord Mayor of London, the Governor of the Bank of England, the Chairman of the London Regional Committee of the British Hospitals Association, and the Treasurer of King Edward's Hospital Fund for London. The launching of the appeal, with which the Prince of Wales is identified as President of the Council of the King's Fund, at this season will afford the opportunity for its support by Easter offerings.

THE M.O.H. OF MANCHESTER.—Manchester is now without a medical officer of health, as Dr. Niven's retirement took place on the last day of March. Until a successor is appointed, Dr. W. S. McClure, the deputy officer, has been appointed as acting medical officer of health. As the result of a suggestion made to the Town Hall Committee by the Manchester Division of the B.M.A., a conference will be held to-day, Friday, April 7th, between representatives of these bodies and the Society of Medical Officers of Health to see whether an agreement cannot be come to. In any case, the vacancy will now have to be advertised again.

ALASTRIM IN SADDLEWORTH DISTRICT.—We have already called attention to the outbreak of this disease in villages in the Saddleworth district (THE LANCET, April 1st, 659). Dr. H. Ramsden, the medical officer, in a report to the district council, states that over 100 cases have been notified in the district, to which visits were paid by many medical officers from other districts who had not previously seen such cases. Before the now well-known features of the disease were determined, many of the early cases were mistaken for chicken-pox. The cases in the Saddleworth district are being treated as small-pox, and the patients are sent to isolation hospitals.

ROYAL MICROSCOPICAL SOCIETY.—A meeting will be held in the lecture hall, 20, Hanover-square, London, W. 1, on April 19th, at 8 P.M., when the following papers will be read: Mr. Conrad Beck, on the Photometry of a Bull's-eye Lens for Illuminating Microscopic Objects. Dr. S. C. Harland, D.Sc., and Mr. J. H. Denham, on the Use of the Microscope in Cotton Research. Dr. R. S. Ludford, Ph.D., on the Morphology and Physiology of the Nucleolus. Mr. Herbert Sutcliffe on the Use of the Microscope in the Rubber Industry. The annual exhibition of microscopic pond life will be held at the Society's rooms on May 17th at 8 P.M. Offers of assistance from Fellows who can exhibit living specimens will be gladly received by the hon. secretaries, Mr. Joseph E. Barnard and Dr. J. A. Murray.

FRENCH COURSE ON SURGICAL TUBERCULOSIS.—Dr. Sorrel, hospital surgeon of Paris and chief surgeon of the Maritime Hospital of Berck, will give a course of six lessons on the Treatment of Osteo-articular and Ganglionic Tuberculosis, from Monday to Saturday, April 10th to 15th, at the Hôpital Maritime de Berck (Pas-de-Calais). The programme is as follows: Monday, Pott's Disease; Tuesday, Coxalgia; Wednesday, White Tumour of the Knee; Thursday, Tuberculous Osteo-arthritis of the Foot; Friday, Tuberculous Osteo-arthritis of the Upper Limb; Saturday, Tuberculous Osteitis and Adenitis. The course each day begins at 9 A.M., and will be followed by the corresponding operations, punctures, preparation of plaster apparatus, and the like. Application should be made to Dr. Parin at the hospital.

BIRMINGHAM POOR-LAW HOSPITALS.—During the half year ended Sept. 30th, 109 persons were admitted to the Dudley-road Hospital from 20 different union areas, and the cost of maintenance and treatment amounted to £1000. Particulars of the cases were forwarded to the guardians of these areas and payment asked for at the rate of £2 2s. a week. Most of the guardians agreed to this, but certain boards have failed to coöperate. The committee have issued a recommendation that the voluntary hospitals be asked to make arrangements so that in future transfers to the guardians' hospitals will be restricted (*a*) to persons resident in the Birmingham Union, (*b*) to persons resident in other unions the guardians of which have agreed to pay a sum in respect of their maintenance. This resolution does not apply to accident cases arising in Birmingham. The report of the chief medical officer states that during 1921 nearly 10,000 in-patients were treated (this is 66 per cent. higher than the average for ten years), although the available accommodation was 50 per cent. less than usual. 1279 surgical operations were performed. The average number of beds occupied was 865 of an available 900. Any fear which might have been entertained that the prejudice against admission to these hospitals would be difficult to overcome has not been realised.

DEATH OF PROF. A. BLASCHKO.—News was received on March 27th of the death in Berlin of Dr. Alfred Blaschko, whose name has for long been associated with the control of venereal diseases by public health measures. Born in 1858, he occupied the chair of dermatology in Berlin University until he vacated it to preside over the German Society for the Prevention of Venereal Diseases, founded in 1902. He was present in London in 1913 at the International Congress of Medicine, opening the discussion at a joint session of the sections of dermatology and forensic medicine. He also took a large share in founding the home for leprosy at Memel in East Prussia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE.—A special intensive course will be held at the Prince of Wales's General Hospital, Tottenham, London, N., from May 15th to 27th inclusive. It will include demonstrations in the mornings of clinical and laboratory methods, groups of illustrative cases, &c., and on Saturday mornings practical demonstrations will be given in associated hospitals. The afternoons will be devoted to general hospital work with clinics in the various departments, to be followed by a clinical lecture dealing with the treatment of disease. The first of the series of clinical lectures will be given by Sir Thomas Horder, on Some Clinical Types of Arthritis and their Treatment. Luncheon will be obtainable in the neighbourhood of the hospital, and tea will be provided at 4 P.M. each day. It is expected that the syllabus will be available before Easter.

ROYAL NORTHERN HOSPITAL.—Speaking at the annual council of governors on March 28th Mr. Stuart de la Rue, chairman of the finance committee, said that it was only fair that the hospitals should have a substantial part of the surplus of £8,000,000 in the hands of the approved societies, because it was created and obtained for the approved societies largely by the work that was done for their people by the hospitals. The hospitals looked after these people well, and in the meantime the approved societies retained the money. The total amount received last year from this source by the hospital was four guineas, which did not seem much out of eight millions. The approved societies had now undertaken in certain cases to pay a guinea per week when their people were admitted to hospital; but the guinea was only forthcoming provided the patient himself contributed nothing. As the cost to the hospital per patient was over £4, and as many patients could pay more than one guinea, the arrangement was not entirely satisfactory.

MENTAL HYGIENE IN FRANCE.—On March 23rd a lecture entitled "La lutte sociale contre la folie" was delivered at the School of Social Service (École Pratique de Service Social), Place des Vosges, Paris, by Dr. Genil-Perrin, médecin en chef, asylums of the department of the Seine, and general secretary, Ligue d'Hygiène Mentale. The lecturer described the work of the league, which was founded by Dr. Toulouse, and emphasised the uselessness of abiding by the outworn formulas of the classic asylum for the insane. In place of mere social defence against the insane must be put comprehensive action along preventive lines. Just as tuberculosis is now taken and treated in an early and curable stage, so insanity could be attacked and prevented from developing if the threatened subject were recognised soon enough. Preventive treatment of the predisposed, assisted by new laboratory methods and by the action of dispensaries and other organisations (already functioning, in the department of the Seine, under the auspices of the league) was, Dr. Genil-Perrin maintained, the true field of mental hygiene and prophylaxis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—A syllabus of the post-graduate course to be held at the hospital, Queen-square, Bloomsbury, London, W.C. 1, from May 15th to June 30th, has now been issued. The course will consist of the following subjects: Lectures in Pathology of the Nervous System, by Dr. J. G. Greenfield, on Mondays and Thursdays, at 12 noon. Lectures in the Anatomy and Physiology of the Nervous System, by Dr. Gordon Holmes, Dr. Hinds Howell, and Dr. Kinnier Wilson, on Tuesdays and Fridays, at 12 noon. Methods of Examination of the Nervous System, by Dr. W. J. Adie, on Wednesdays at 12 noon. Out-patient clinics, Mondays, Tuesdays, Thursdays, Fridays, at 2 P.M., and clinical lectures and demonstrations on Wednesdays at 2.15 P.M. Dr. James Taylor, Dr. Grainger Stewart, Dr. Risien Russell, Dr. James Collier, Dr. F. M. R. Walshe, Dr. Aldren Turner, Mr. P. Sargent, Mr. D. J. Armour, Mr. Leslie Paton, Dr. L. P. Bailey, Dr. Russell Reynolds, and Mr. Sydney Scott will also take part in the course. An inclusive fee of £10 10s. will be charged for the whole course, which fulfils the requirements of the regulations for the D.P.M. of the Royal Colleges in regard to instruction in nervous diseases. Any part of the course may be taken separately at a special fee on application to the Dean, Dr C. M. Hinds Howell. A detailed syllabus can be obtained from the secretary of the hospital, to whom fees are payable.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

NATIONAL HEALTH INSURANCE BILL.

Sir A. MOND, Minister of Health, introduced in the House of Commons on March 29th the National Health Insurance Bill, a measure "to make further provision with respect to the cost of medical benefits under the Acts relating to National Health Insurance, to repeal Section 2 and to amend Section 29 of the National Health Insurance Act, 1918, and for purposes connected therewith. The Bill was read a first time. Clause 1 provides that there shall be paid in each year out of the benefit fund of every approved society (*a*) to insurance committees in England on account of the cost and the expenses of administration of medical benefit under Subsection (1) of Section 7 of the National Health Insurance Act, 1920, and subject to such conditions as may be prescribed, a sum at such yearly rate as may be prescribed, but not exceeding 2*s.* 4½*d.* per year in respect of each of the total number of the persons in respect of whom payments are made under that section; and (*b*) the Minister of Health on account of expenses incurred by him in connexion with the administration of benefits, a sum at such yearly rate as may be prescribed but not exceeding 1½*d.* per year in respect of each of the total number (calculated in the prescribed manner) of the members of the society. Subject as otherwise provided no part of any sums paid under this section are to be derived from moneys provided by Parliament. By a proviso it is proposed that there shall be credited to each society out of moneys provided by Parliament in such manner and at such times as may be prescribed by regulations to be made by the National Health Insurance Joint Committee with the approval of the Treasury, such sum (to be calculated in such manner as the regulations may prescribe) as would by virtue of Section 3 of the National Insurance Act, 1911, be payable out of moneys provided by Parliament if the sums paid by the society under this section, *together with interest thereon from the date of payment at the rate prescribed for the purposes of paragraph* (c) *of Subsection* (1) *of Section* 56 *of the National Insurance Act*, 1911, were, on the valuation of the society made next after the passing of this Act, applied for the purpose of additional benefits under the National Insurance Act, 1911. The expression "benefit fund" means the fund out of which benefits are payable under Part 1 of the 1911 Act. The first clause will come into operation from April 1st, 1922, and paragraphs (*a*) and (*b*) of the clause will remain in force until Dec. 31st, 1923.

Clause 2 abolishes the Women's Equalisation Fund as from Jan. 1st, 1922. This section is intended to apply to Northern Ireland. Under Clause 3 it is provided that part of the sums unclaimed in the stamps sales account may be applied towards the cancellation of arrears of members of approved societies. In the application of the Act to Scotland under Clause 4 2*s.* 9*d.* is substituted for 2*s.* 4½*d.*, the Scottish Board of Health is substituted for the Minister of Health, and 2½*d.* is substituted for 1½*d.*, and Section 1 of this Act will have effect as if there were inserted after the word "benefits" in paragraph (*b*) the words "and the provision of a medical service for insured persons in such districts of Scotland (other than the Highlands and Islands within the meaning of the Highlands and Islands (Medical Service) Grant Act, 1913) as may be determined by the Scottish Board of Health to be necessitous." In the application of the Act to Wales, 2*s.* 11½*d.* is substituted for 2*s.* 4½*d.*, and 2*d.* is substituted for 1½*d.* The Act will not (except as otherwise provided) apply to Ireland.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 29TH.

Traffic in Drugs.

Mr. MORRIS asked the Secretary for the Home Department whether his attention had been called to the organised traffic in drugs which was carried on in London by Chinese and Japanese agents; and what steps he proposed to take to suppress this dangerous smuggling at the ports of entry and also the distribution of the drugs by undesirable aliens in the West-end of London.—Mr. SHORTT replied: Information is received from time to time that opium, cocaine, and other drugs are smuggled into the country or sent through the post from the continent, and it is known that Chinese seamen and others are addicted to the opium habit, but the police are not aware of any organised traffic. Every effort is made to detect offenders, but short of opening all incoming passengers' luggage, the minute search of every passenger, and the examination of every postal package I am afraid it will not be possible to suppress entirely the illicit introduction of drugs into this country as long as it is possible to obtain them without difficulty in other countries. The matter is one in which international coöperation is essential, and the whole question is engaging the attention of the League of Nations, which has been entrusted by the Treaties of Peace with the general supervision of the traffic in opium and other dangerous drugs.

Raw and Pasteurised Milk and the Quality of Milk.

Viscountess ASTOR asked the Minister of Health whether he was aware that most of the milk sold in London and much sold in other large towns as raw milk had been pasteurised either once or more than once; and if he would take steps to require that pasteurised milk should be so described when offered for sale.—Sir A. MOND replied: I am aware that much of the milk sold in London and in some provincial towns is treated by a process of so-called "pasteurisation," but I do not think that this milk is generally sold as "raw milk." I have no power at present to require pasteurised milk to be sold as such, but the matter is under consideration in connexion with the question of further legislation on this subject.

Viscountess ASTOR also asked the Minister of Health whether he was aware that much milk described as nursery, invalids', guaranteed milk, &c., was merely milk of ordinary quality: and was he prepared to take such action as would enable a consumer to know the quality of milk that he bought.—Sir A. MOND replied: I am aware that this is the case. I have no power to prohibit the use of such descriptions as those mentioned, but I hope that in time it will be generally recognised that the only designations of this kind on which any specific reliance can be placed are those authorised by the official grading scheme.

Royal Air Force and Vaccination.

Mr. MILLS asked the Secretary of State for Air whether men in the Air Force are subject to any, and, if any, to what Regulations other than those which applied to soldiers in the army in regard to vaccination or inoculation.—Captain GUEST replied: The answer to the first question is in the negative; the second does not therefore arise.

THURSDAY, MARCH 30TH.

Convictions for Drunkenness.

Sir WALTER DE FRECE asked the Secretary for the Home Department the convictions for drunkenness in England, Scotland, and Wales, respectively, for each of the last three periods of six months.—Mr. SHORTT replied: I can give the figures for England and Wales only. No figures are available for a later date than the end of the year 1921. For that year and the year 1920 the figures in six-monthly periods are as follows: January–June, 1920, England, 45,515; Wales, 2694; July–December, 1920, England, 44,964; Wales, 2590; January–June, 1921, England, 35,252; Wales, 1898; July–December, 1921, England, 38,766; Wales, 1873.

Cost of Local Government Services.

Dr. FARQUHARSON asked the Minister of Health if the figures arrived at after deducting the appropriation-in-aid obtained from National Health Insurance funds, £205,645, from the total establishment charges of the Ministry, £1,427,173, represented the cost to the Exchequer of exclusively local government services; and, if so, would he explain the cause of the increase from £302,356 in 1914–15 to £1,221,528 in 1922–23.—Sir A. MOND replied: The figure of £1,221,528 mentioned in the question represents the estimated net cost in England not only of the administration of local government services, but also of central insurance administration and certain other services. The corresponding figure in the 1914–15 Estimates is £598,267. Included in the 1922–23 figure is provision of £464,500 for war bonus, an item for which no corresponding provision had to be made in 1914–15. The balance is accounted for by the expansion necessitated by legislation since 1914–15 in the functions of the departments now comprised in the Ministry of Health, especially in the direction of housing, maternity and child welfare, tuberculosis, venereal disease, and other services. I may also observe that the sum estimated to be paid over to the Exchequer in fee stamps and revenue stamps in reimbursement of the cost of local audit and the inspection of alkali works is £186,000 in 1922–23, as against £64,660 in 1914–15.

MONDAY, APRIL 3RD.

Nursing Council Rules.

Mr. THOMAS GRIFFITHS asked the Minister of Health whether, when he informed the section of the general nursing council, representing the employers' interests, that he was prepared to sanction any rules consistent with the Act which the council thought necessary, it was within his knowledge that this section, consisting of ten matrons, five medical men, and four lay members, formed the overwhelming majority of those upon the council, and that by reason of this unequal representation there was a possibility of the interests of the workers being brushed aside in favour

of those of the employers.—Sir A. MOND replied: I have given no such pledge as is stated by the hon. Member. I intimated to the chairman that I would approve such rules consistent with the Act as the council thought necessary to meet the serious difficulties which had arisen, and to speed up registration and secure an adequate electorate within the time allowed under the Act. I was, of course, acquainted with the personnel of the council, and I must once again demur in the strongest manner to my suggestion that any one section of the council is less anxious than another to do what is best in the interest of the working nurses.

Pension Appeals.

Major KELLEY asked the Minister of Pensions how many cases had passed through the pensions appeal medical board, together with the proportion of successful and unsuccessful appeals.—Major TRYON replied: Since their institution in November, 1919, medical appeal boards have examined approximately 126,000 officers and men. In 55 per cent. of the cases the assessment has not been altered, in 33 per cent. it has been raised, and in 12 per cent. it has been lowered. I am assuming that my hon. and gallant friend refers to the Ministry's medical appeal boards; if, however, he has in mind the pension appeal tribunals, I would refer him to the reply given by my right hon. friend, the Attorney-General, to the hon. Member for Workington on March 14th.

Relief for Russia.

Mr. FOOT asked the Prime Minister what contribution His Majesty's Government had actually made up to the present towards the needs of the starving peasants of South-East Russia; to what extent the contribution had been made up of stores; what form the stores had taken; and the several channels through which the contribution had been made.—Mr. CHAMBERLAIN replied: The contribution made by His Majesty's Government towards famine relief in Russia consists wholly of stores to the present day value of £200,000, as explained to the House of Commons in the two supplementary estimates presented respectively on Oct. 27th, 1921, and on Feb. 23rd, 1922. The stores consist mainly of foodstuffs, about £180,000 worth being food and the rest medical stores. The stores have been, or are being, handed over to the British Red Cross to be distributed by their agents in Russia in conjunction with the Russian Famine Relief Fund, the Society of Friends, and the Save the Children Fund for the relief of the victims of the famine.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Lieut.-Commdr. S.W. Grimwade to be Surg. Commdr.

E. C. Bevis and D. C. Eglington to be temp. Surg. Lieuts. (D).

ROYAL NAVAL VOLUNTEER RESERVE.

G. F. Abercrombie to be Surg. Lieut.

ROYAL ARMY MEDICAL CORPS.

Col. T. W. Gibbard, late R.A.M.C., to be Maj.-Gen., vice Maj.-Gen. G. S. McLoughlin.

Lt.-Col. (temp. Col.) F. F. Carroll, from R.A.M.C., to be Col., vice Col. T. W. Gibbard.

Maj. V. T. Carruthers retires receiving a gratuity.

Capt. W. A. Frost to be temp. Maj. whilst empld. as Dep. Asst. Dir. of Pathology, Straits Settlements.

Lt. (temp. Capt.) C. A. Whitfield to be Capt.

Temp. Capts. relinquishing their commns., and retaining the rank of Capt.: E. C. Tatam, D. J. Jones, J. Potter, T. L. Kenion, T. F. Wilson, and E. Tanton.

MILITIA.

Capt. C. M. Page to be Maj.

TERRITORIAL ARMY.

Lt.-Col. H. K. Dawson resigns his commn. and retains the rank of Lt.-Col.

Capt. T. Carnwath resigns his commn. and retains the rank of Capt.

Capt. A. E. Evans, from Genl. List, to be Maj., and to comd. 8th (Lond.) San. Co.

Capt. W. C. Gunn, from Genl. List, to be Maj., and to comd. 5th (Scottish) San. Co.

Capt. H. N. Goode, from Genl. List, to be Maj., and to comd. 6th (Northern) San. Co.

Capts. H. D. Levick and J. C. McKenzie, having attained the age limit, are retired and retain the rank of Capt.

3rd S. Genl. Hosp.: Capt. A. J. Drew is restd. to the estbt.

The undermentioned offrs. relinquish their commns. and retain their rank: Maj. J. D. Wells, Capts. A. N. G. Jeans, J. H. Rawlinson, R. P. Stewart, J. P. Thierens, C. E. Williams, C. G. Skinner, K. V. Smith, and R. W. A. Salmond.

TERRITORIAL ARMY RESERVE.

Capt. A. C. M. Savege, from Genl. List, to be Capt.

ROYAL AIR FORCE.

Flight Lt. D. Le Bas is granted a short service commn., retaining his present substantive rank and seniority.

The undermentioned Capts., Army Dental Corps, are granted temp. commns. as Flight Lts. while attached for duty with the R.A.F.: H. E. Flavelle and R. M. King.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Tuesday, April 11th.

GENERAL MEETING OF FELLOWS: at 5 P.M.
Ballot for election to the Fellowship.

THERAPEUTICS AND PHARMACOLOGY, at 4.30 P.M.
Annual General Meeting:
Election of Officers and Council for session 1922–23.

PSYCHIATRY: at 8.30 P.M.
Paper:
Dr. Bedford Pierce (President): Recovery (to be followed by a discussion).

SOCIETY FOR THE STUDY OF INEBRIETY, 11, Chandos-street, Cavendish-square, W.
TUESDAY, April 11th.—4 P.M., Prof. E. L. Collis will open a discussion on the Use of Alcohol by the Industrial Worker.

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S.W.
WEDNESDAY, April 12th.—9 P.M., Dr. Herbert French: One or Two More Clinical Points.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART POST-GRADUATE COURSE, Westmoreland-street, Marylebone, W.
MONDAY, April 10th.—5.30 P.M., Dr. Weir: Some Results of Cardiac Disease.
Daily:—10 A.M. and 2 P.M., Out-patients and In-patients.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, April 11th.—4.30 P.M., Dr. E. B. Leech; Recent Work on the Actions of Common Drugs.

Appointments.

LISTER, A. E. J., Lieut.-Colonel, I.M.S. (ret.), has been appointed Honorary Assistant Surgeon to the Western Ophthalmic Hospital, London.

SMELLIE, J. M., M.D. Edin., Medical Registrar to the Queen's Hospital, Birmingham.

Certifying Surgeons under the Factory and Workshop Acts: BLACKSTOCK, R. P. H., L.R.C.P. & S. Edin., L.R.F.P.S.G. (Dalkeith); STARKEY-SMITH, T. G., M.D., B.S. Lond. (Hungerford); HOWIE, P., M.B., C.M. Aberd. (Aberdeen); COX, F., L.R.C.P. Lond., M.R.C.S. (Reading); CHALMERS, J. (Keighley).

Vacancies.

For further information refer to the advertisement columns.

Birkenhead Education Committee.—Asst. Sch. M.O. £500.
Birmingham General Dispensary.—Res. M.O. £450.
Birmingham and Midland Eye Hospital.—Res. Surg. O. £200.
Birmingham, Queen's Hospital.—Res. H.S. £90.
Bristol Royal Hospital for Sick Children and Women.—H.P. and H.S. Each £125.
Cambridge, Addenbrooke's Hospital.—H.P. £130.
Cardiff, Welsh National School of Medicine.—Lect. in Phys. Chem., &c. £750.
Carlisle, Cumberland Infirmary.—Res. M.O. £175.
Charing Cross Hospital.—Obstet. Reg.
Croydon Union Infirmary, &c.—Res. Med. Supt. £1000.
Derbyshire Royal Infirmary, Derby.—H.S. Asst. H.S. and Cas. O. Each £200.
East London Hospital for Children, &c., Shadwell.—Res. M.O. £200. H.S. and H.P. Each £125.
Exminster, Devon Mental Hospital.—Locum Tenens. £7 7s. per week.

Hospital for Consumption and Diseases of Chest, Brompton.—Asst. in Dept. of Path. £250. H.P. £50.
Hospital for Epilepsy and Paralysis, &c., Maida Vale.—Res. M.O. £150.
Hospital for Sick Children, Great Ormond-street, W.C.—H.P. £50.
Huddersfield Royal Infirmary.—Jun. H.S. £200.
Hull City Education Committee.—Asst. Sch. M.O. £500.
Hull Royal Infirmary.—Sen. H.S. £200.
Ipswich, East Suffolk and Ipswich Hospital.—H.S. £150.
Lambeth Parish Infirmary, Kennington, S.E.—Jun. Asst. M.O. £250.
Leamington Spa, Warneford, &c., General Hospital.—Res. H.P. £150.
Leeds Public Dispensary.—Jun. Res. M.O. £150.
Leicester Royal Infirmary.—Hon. Asst. P. H.P. £150.
Lincoln County Hospital.—Third H.S. £150.
London Temperance Hospital, Hampstead-road.—Surg. Reg. 40 guineas.
Maidstone, West Kent General Hospital.—H.S. £220.
Manchester, Bayley Sanatorium.—Third Asst. M.O. £300.
Manchester, St. Mary's Hospitals for Women and Children.—H.S. £100.
Manchester, Victoria Memorial Jewish Hospital, Cheetham.—Res. M.O. £150.
Metropolitan Hospital, Kingsland-road.—Cas. O. and Res. Anæsth. £120. Asst. H.P. and Asst. H.S. Each £100.
Middlesex Hospital, W.—Res. M.O. £350.
Miller General Hospital for South-East London, Greenwich.—Res. Cas. O. £200.
Orford, Headington, Orthopædic Hospital.—Jun. Res. S. £250.
Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Dist. Res. M.O. £80.
Royal College of Surgeons of England.—Examiners.
Royal Free Hospital, Gray's Inn-road, W.C.—Cas. O. £100.
Royal Waterloo Hospital for Children, &c., Waterloo-road, S.E.—H.P. £100.
Sheffield Royal Hospital.—Asst. Cas. O. £150.
Stroud General Hospital.—H.S. £200.
Warrington Infirmary and Dispensary.—Sen. and Jun. H.S.'s. £250 and £200 respectively.
West Ham County Borough.—Asst. Tuberc. O. £550.
West London Hospital, Hammersmith-road.—Non-Res. Cas. O. £5 5s. per week. Hon. Med. Radiographer.
Westminster Hospital, Broad Sanctuary, S.W.—Asst. H.P. £52.
Winchester, Royal Hampshire County Hospital.—H.P. and H.S. Each £150.
Wolverhampton and Staffs General Hospital.—Res. Cas. S. £300. Also H.S. £200.
Woolwich Union Infirmary, Plumstead High-street.—Asst. M.O. £350.
Wrexham Infirmary.—H.S. £150.

The Chief Inspector of Factories Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Brynmawr (Brec.), Carlisle, and Weymouth.

Births, Marriages, and Deaths.

BIRTHS.

ABEL.—On March 28th, at Jenner House, W.C., the wife of A. Lawrence Abel, M.S., F.R.C.S., of a son.
FAIRLIE-CLARKE.—On March 27th, at Waterloo-crescent, Dover, the wife of A. J. Fairlie-Clarke, F.R.C.S., of a daughter.
SELLS.—On March 23rd, at Crinnis House, Southend-on-Sea, the wife of Roland Sells, M.R.C.S., L.R.C.P., of a son.
WALKER.—On March 28th, at Thorpe-road, Peterborough, Winifred, the wife of Russell E. Walker, F.R.C.S. Edin., of a son and daughter.

MARRIAGES.

DEAN—GLEAVE.—On March 29th, at Holy Trinity Church, Markbeech, Kent, Christopher Dean, M.D., M.C., of Kimbolton, Huntingdonshire, to Margaret Gleave, eldest daughter of Mr. and Mrs. Charles Gleave, of Weaverham, Cheshire.
FOURACRE—ISAAC.—On March 30th, at the Parish Church, Woldingham, Sidney Frank Fouracre, M.B., B.S. Lond., of Withernsea, East Yorks, formerly of Charing Cross Hospital and Tollington Park, N., to Muriel, second daughter of Mr. and Mrs. Henry Isaac, of Brookfield, Woldingham, Surrey.

DEATHS.

FLEMING.—On April 1st, after long illness, Thomas Fleming, M.D., 42, Harley-street.
HOSEGOOD.—On March 30th, at Llanwrtyd Wells, Breconshire, Samuel Price Hosegood, M.R.C.S. Eng., L.R.C.P., aged 57 years.
MOORE.—On March 27th, at Starkie-street, Preston, Lancs (suddenly), Mr. W. F. Moore, M.R.C.S., L.R.C.P.
POTTER.—On March 31st, at St. Helens, Isle of Wight, Edward Furniss Potter, M.D., M.R.C.P.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Dr. Tom Jays has been elected on the Leyton Urban District Council. Dr. W. Lock and Dr. G. W. R. Skene head the poll for the Willesdon Urban District Council.

Notes, Short Comments, and Answers to Correspondents.

PNEUMONIA FROM THE PATIENT'S POINT OF VIEW:

NOTES BY A MEDICAL MAN ON HIS OWN CASE.

DURING the week ending March 25th, 937 cases of pneumonia were notified in England and Wales, a figure which will be much increased when the first warm days of spring occur. The season is appropriate for us to print the following account of an attack of pneumonia which has been supplied to us by the patient, a medical man.

The Social Significance of Pneumonia.

Pneumonia, he writes, has been much before the public eye of late. Just before Christmas, 1921, a man, aged 45, of world-wide reputation, living near me, was taken ill on a Thursday and died on the following Tuesday. On Jan 22nd died Pope Benedict; almost daily one reads that So-and-so had "taken a chill" and "pneumonia supervened," or the obituary runs "of pneumonia following influenza," and so on. The present death-rate from pneumonia, compared with that of 20 or 30 years ago, shows little or no improvement. The disease attacks and kills persons in robust health as readily as those already suffering from some other ailment, but it seems to prefer those in the middle period of life, from the ages of 40 to 65. The young, the young adult, and the aged appear more or less immune from the ordinary croupous type. It is no respecter of persons—peer and labourer, brain-worker and out-door liver are equally liable to attack. Do the statistics of the disease prove anything? Is the hope of recovery better at one period of life than another? Does institutional treatment show any better results than home treatment?

Story of an Attack.

I am prompted to write this article because I have just recovered from a second attack of the disease. The first occurred about 25 years ago whilst practising in the West of England. On that occasion I had just returned from an afternoon's round of visits. I stood in front of the fire and shivered—had, in fact, a severe rigor—and went to bed. A brother practitioner saw me that evening; all I can remember was intense agony in my left side, to relieve which the doctor promptly strapped the side as for fractured rib. A horse once kicked me in the side and broke two ribs; I had to catch him and ride him home, and the pain I then suffered was just on all fours with the pains of pleurisy accompanying pneumonia. The relief I got from the strapping was immense and instantaneous. That night the temp. rose to 105° F. and I was in a violent delirium. I remember nothing more till I found myself two or three days afterwards quite comfortable, fever gone, and on my way to a speedy recovery.

The recent attack began on the evening of Jan. 15th. I had been indoors all day, feeling disinclined to go out. On the day before I had played golf in the morning and a game of billiards at the club between tea and dinner. I was sitting on a settee near the fire when, without any warning, I received a stab in the left back. This was followed by another and another. I remarked: "I have got pleurisy, and that means pneumonia." I went to bed; putting on a fleecy Jaeger dressing-gown was a great comfort, and this garment was not taken off again for a week.

That first night I suffered severely from pleuritic pains, coming in single stabs, or half a dozen at a time. Why does pleurisy accompany one attack of pneumonia and not another? Does its presence indicate that the portion of lung at first involved is near the periphery? Is the pain confined to pleura adjacent to an affected area of lung? In my case pain at first was confined to the left base. Later on, as more lung became involved, the pains tended to go higher up, back and front. The pleurisy gave me far more trouble than the pneumonia. I had little or no sleep that night. On the morning of the 16th the temp. was 102·8° F. and the base of the left lung felt heavy, full, and painful.

The Patient Prescribes His own Treatment.

I did not call a doctor in, as I wished to try the effect of a few new theories formed during the last few years—theories one dare not try on one's patients.

Position.—I decided to lie on my back with head just raised enough for the mouth to be above the bed-clothes. I breathed as slowly and as shallowly as I could, and did not move if I could possibly help it.

Diet.—I decided to eat nothing or next to nothing. As a matter of fact, all I had in the way of food from Sunday (15th) to Saturday (21st) was two cups of Allenburys diet and three cups of Oxo. On the Tuesday afternoon and evening I had two glasses of port wine, as I felt very low. I am sure they

did me harm. Of water I drank a large amount. In fact at one time I seemed to be always wanting it. I also had two or three cups of tea.

Fresh Air.—This I had in abundance. The window and door were always wide open. The door led into a passage. At the other end of the passage was another window. This too was kept wide open, and as my bed lay more or less in the line of the two windows, I was in a "through draught," as people say. I had now laid my plans and could await events. Of course I had no nurse. She would never have allowed such heresies—in fact neither she nor anyone else would have stayed in the room; there was *no fire*. At times the wind blew half a gale, and my pictures were blown face to the wall. The first two days were bright and clear, with a sharp frost each night; on the 17th the morning temp. was 100° and at 8 P.M., 97°.

Appearance of Herpes.—On that day herpes appeared on the lower lip. What is the connexion between herpes and pneumonia? I remember being taught to look out for it in "inflammation of the lungs," as pneumonia was then called, when I was a student at Guy's 45 years ago. There is an undoubted connexion between herpes and varicella. Does the same connecting link embrace pneumonia? That same evening I felt flat and weak; the temp. had dropped to subnormal and I took two glasses of port wine. I regretted it. Next morning the temp. was up to 104° and I could tell that more lung was involved—the middle lobe.

Expectoration.—I had no trouble with expectoration. It came up very easily and in most cases seemed ready to be ejected at once. It was always "rusty" and occasionally bright blood appeared in it. I attributed the ease of expectoration to the supine position I was in. Gravity assisted. I was not always on my back; occasionally I turned slowly and gently on to the right side. I tried the left side, but could not manage that, as it seemed to embarrass the heart.

Pains.—Pains due to pent-up wind caused much uneasiness; they were everywhere—about the liver, about the heart, in front of the left lung, and behind under the scapula. Sometimes I thought them to be in the lung; but they disappeared. On the Thursday night the temp. had dropped to 98°, but the pains (not pleuritic, by this time the pleurisy had gone) over the left base were worse than ever. It felt to me as if I had a cricket-ball rammed tightly down at the bottom of that lung. It occurred to me to try the effect of rubbing the back with a lin. gaultheriæ (Corbyn) I always keep by me for sprains, &c. My wife objected at first, but finally consented, and gave me a good rubbing over the left base. In a quarter of an hour the pain had gone, and I was fast asleep. On Friday morning the temp. had again risen to 101·8°. These morning rises were a feature of the case. I had more pain in the left side, over almost the whole lung—another patch of invasion. I did not worry; the pulse- and respiration-rate had kept good from the first; and I knew I was holding my own. The usual mental worry in pneumonia cases must have a bad effect on the chances of recovery, and I am sure that constant fussing is bad for these cases.

A Happy Termination.

Throughout the whole attack I was *left alone*, and to that, as much as to anything, I think I owe my quick and thorough recovery. On Saturday morning, the 21st, the temp. stood at 99·8°, and at 8 P.M. that day at 98°. That was the end of the attack. Next morning I awoke fit and bright and wanted a good breakfast. That afternoon I got up and walked into the sitting-room. The following day (Sunday) I sat up several hours, wrote several letters, and enjoyed two good meals. I should have been out to-day, the tenth day, if it had been fine.

For the first three or four days the mental faculties were exalted. I was quite a clever fellow; I played scores of games of imaginary bridge and won them all. I have no recollection as to who the players were. But we played high—for a house, for £1000—and I always seemed to hold very high honours. At another time I began to write a book "Recollections of a Country Doctor." I reeled off chapter after chapter, and might have had the book now ready for the printer if a typist had been at hand to read and transcribe my thoughts. Was I cold in bed? Not at all. I lay under two blankets and an eiderdown, with a hot bottle at my feet and a rubber bottle under my back or at my sides. I was often too hot. The free use of water kept lips and tongue moist and not till the last day was I troubled with dry lips. The starvation meant an immense saving of work for my excretory organs and heart, and left me ready for food as soon as the attack was over.

ARMY MEDICAL LIBRARIES.

IT has been decided to establish in the principal military hospitals at home and abroad small libraries of standard books of reference and of current medical literature, in order that officers of the Royal Army Medical Corps may keep themselves abreast of advances in medicine and the allied sciences. Each library will form a medical intelligence bureau for the district which it serves and be available for all officers of the corps serving in that district. Libraries at home stations will be supplied (at the public expense) with Rose and Carless's "Manual of Surgery," Osler and Macrae's "Principles and Practice of Medicine," Parkes and Kenwood's "Hygiene and Public Health," Manson's "Tropical Diseases," the *British Journal of Surgery*, the *Journal of Hygiene*, *Medical Abstracts and Reviews*, the *Tropical Diseases Bulletin*, and standard works on medical and allied sciences to the total value of £5 annually. The libraries at stations abroad will be supplied with all the above and, in addition, with Rowlands and Turner's "Operations of Surgery," Stitt's "Practical Bacteriology," Alcock's "Entomology for Medical Officers," and Hutchinson's "Diseases of Children." Standard works will be allowed up to the value of £9 annually.

Each library will be placed under the care of an officer to be selected by the Deputy Director of Medical Service of the command from the staff of the hospital in which the library is situated.

SMALL-POX IN NOTTINGHAM DURING 1921 AND 1922.

THE following brief note appears pending the issue, by Dr. P. BOOBBYER, medical officer of health, of a full report, which has been delayed by accident.

Prior to Feb. 16th, 1921, no case of small-pox had been recorded in Nottingham since the middle of July, 1912. The first case during 1921, that of an unvaccinated girl, aged 20 years, had onset about Feb. 16th, and occurred in a good residential neighbourhood. The infection was probably acquired in a northern town. The attack was mild, with a discrete but unmodified rash. The patient was removed to the city small-pox hospital, and there was no spread of infection at this time. A period of 13¼ weeks elapsed after the onset of the first case before the commencement of the next—on May 22nd. The source of infection in the latter was considered undoubtedly the Long Eaton outbreak, in progress at this time. Long Eaton is less than seven miles (S.W.) from Nottingham, and the communication between the two towns is free and constant. From the middle of May, 1921, onwards, till the end of January, 1922 (a period of eight and a half months), there was an unbroken series of cases, some 113 in all, continuous alike both in point of time and of origin.

Restricted Incidence.

The disease displayed, as usual, a tendency to confine itself to certain districts of the city and to certain social strata of the community. The obvious explanation of these facts is: A first introduction of infection without hindrance for a time, and subsequent propinquity and free communication among individuals of the population affected. The prevailing type of the disease was the remarkable feature of the outbreak. A large proportion of the cases were of the "alastrim" or western type, of which much has been heard in recent years, but from apparently the same strain as these there developed others of the normal unattenuated variety. There was no fatality, but several of the cases were extremely severe One unvaccinated woman, aged 52, for example, had a confluent rash on face and back, high secondary fever, laryngitis, and broncho-pneumonia, and barely escaped with her life. She subsequently developed numerous boils, and remained in hospital for more than three months. The fact is emphasised that this case developed among a group of other cases of definitely attenuated strain.

Confusion with Varicella.

Dr. L. M. Moody, the Government pathologist of Jamaica, describing the recent outbreak in that island, referred to "alastrim" as a disease which naturally runs a benign course, as distinguished from a mild (or commonly mild) form of a severe disease. Dr. Boobbyer does not agree with him in this opinion; considering the clinical records of the outbreaks in Jamaica and Nottingham, he is convinced they are of the same type. Owing to the mildness of the attacks in many of the Nottingham cases, especially of young unvaccinated children, it was commonly reported even by medical practitioners that these children were suffering from varicella; but a careful study of the cases and of the age incidence in the vaccinated and unvaccinated respectively confirmed the diagnosis of small-pox. Incubation period, prodromals, onset symptoms, and rash all pointed to small-pox—for the most part of a mild form, but certainly small-pox.

In some cases a magnifying glass was necessary to reveal the typical features of papule, vesicle, pustule, or scar, but these features were present and apparent when properly sought for. The first small-pox cases of this character which came to notice in this country were those of seven Mormon missionaries from Utah who visited Nottingham in 1901.[1]

[1] THE LANCET, 1901, i., 1232.

Dr. Boobbyer considers that the protection afforded by vaccination will probably be accepted more freely than other evidence of the nature of this complaint. The longer duration of protection conferred is probably explained by the lower infectivity of an attenuated virus. All vaccinated persons attacked in this outbreak were over 30 years of age; 87 out of 92, or 94·6 per cent., of the unvaccinated persons attacked were under 30 years of age. About half the children in the city had been vaccinated: not one of these contracted small-pox.

RELATIVE VALUES IN PUBLIC HEALTH WORK.

Sir Arthur Newsholme used the opportunity afforded by a series of Chadwick lectures to make a broad survey of public health. The lectures were delivered on three successive evenings in the large lecture hall of the University of Birmingham, the chairman on the first occasion being the Lord Mayor, on the second Sir Gilbert Barling, Vice-Chancellor, and on the third Councillor Lucas, chairman of the Public Health Committee. The first lecture dealt with values in their historical relations. The first great public health generalisation, that dirt produced disease, had proved too sweeping, but nevertheless the public provision of clean water followed historically on the disappearance of cholera; and diarrhœa had become a useful index of domestic cleanliness, especially in food. History afforded a splendid vindication of the value of a complete knowledge of the natural history of disease. In the second lecture the possibilities of preventing the chief infectious diseases were reviewed. While administrative care was concentrated on the acute notifiable diseases, which caused a mere 3 per cent. of total mortality, tuberculosis with its 10 per cent. was still not receiving proper notice. Adult health being largely determined by disease or absence of disease in childhood and adolescence, the prevention of tuberculous, rheumatic, and syphilitic infections at early periods of life would do more than any other measures to render adult life healthy and to promote old age. In his final lecture Sir Arthur Newsholme set forth minimum standards for personal and communal health. In English and American towns alike the amount spent on public health averaged 5s. a year per inhabitant, being in England a proportion of 4–8 per cent. of the local rates. The quickest return in health for money he thought would be found in work on maternity and child welfare combined with a minimum standard in regard to housing and the organisation of milk-supply. Government grants should be given conditionally on these standards being realised. Sir Arthur Newsholme concluded by expressing his conviction that in addition to the information obtainable from vital statistics there remained other elements in public health work which could not yet be assessed in figures.

Dr. Maurice Davidson's lecture at the Institute of Hygiene in London on March 29th also dealt broadly with the public health aspect of tuberculosis and the measures required for keeping infection within reasonable bounds. Nevertheless, to eliminate all active sources of infection would, Dr. Davidson thought, be undesirable, as it would remove one of the prime factors in the establishment of race immunity. He therefore counselled a middle course for sanitary authorities, lying somewhere between the two extremes of endeavouring entirely to eliminate infectious individuals and of leaving them uncontrolled. The advanced and incurable case, not the early and curable one, mattered most, he concluded, in any rational and methodical scheme of prevention.

LABORATORY ASSISTANTS.

UNDER its new constitution the Association of Assistants in Pathological and Bacteriological Laboratories is now admitting, as associate members, laboratory assistants from laboratories other than those of pathology and bacteriology. The organisation, which is not a trade-union, was founded in 1912, its chief object being to improve the status of the laboratory assistant by endeavouring to raise the standard of technical knowledge through the medium of an educational programme, culminating in an examination and the granting of a certificate of proficiency in laboratory technique. The examinations are conducted by an examining council in coöperation with the Pathological Society of Great Britain and Ireland.

To encourage the systematic teaching of the junior members, lectures and classes in the technique of pathology and bacteriology are conducted by members of the medical profession and of the Association throughout the winter session. An official organ, *The Laboratory Journal*, is issued to members quarterly. The journal contains, in addition to Association news, original articles and abstracts of technical interest to laboratory workers. There is also an employment bureau (Mr. F. Norman, New Haw, Weybridge). From the first the founders had in mind the ultimate inclusion of all laboratory assistants in one federation, and the object of the present movement is to further the realisation of that ambition. It is hoped that as willing workers are forthcoming there will spring from the associated membership sections embracing other branches of science following along the lines of the educational programme laid down by the parent organisation. In the formation of the associated sections the parent association is prepared to afford financial and other assistance.

The Honorary Associate Secretary is Mr. F. C. Padley, 2, Eldon-place, Reading, to whom all applications for associate membership should be made.

STATE REGISTRATION OF NURSES AND NEW RULES.

To the Editor of THE LANCET.

SIR,—It surprises and disappoints me greatly to learn that the Editor of an important journal like THE LANCET should show so little understanding and sympathy in relation to this question. The Act for the State Registration of Nurses will be of very little value to them if those who administer it—namely, the members of the General Nursing Council—are ready to sacrifice principles for which many of us have striven for so many years. It does not require a very vivid imagination to realise that Rule 9a is open to many abuses. You speak of the Registrar as a "Government official." Allow me to point out that this is an error; her appointment as Registrar and Secretary by the General Nursing Council has to be approved by the Minister of Health, but the General Nursing Council can dispense with her services by six months' notice. Her salary of £550 per annum is paid by the Council out of the nurses' registration fees. No State subsidy is provided for in the Act. That there should be any "discord" in the G.N.C. is regrettable, but those who have caused it are to blame, not those who have courageously protested against what is undeniably wrong. Peace at any price is not their policy.—I am, Sir, yours faithfully,

BEATRICE KENT,
President, R.N.P.C.

The Registered Nurses Parliamentary Council,
431, Oxford-street, London, W.1,
March 29th, 1922.

A LAYMAN ON HYGIENE.

THE sanitary successes of this country are rightly attributed to the interest and coöperation of the lay public. One of them, Mr. Thomas Quinlaw, here presents in a book entitled "Life in a Nutshell, or Gleanings of Human Knowledge" (London: Heinemann, N. D. 1922. Pp. 100. 3s. 6d.), a series of elementary and disconnected remarks on things in general and personal hygiene in particular. If it contains such strange natural knowledge as (p. 28) "the sea air, we know, contains more oxygen than inland air, and this we call ozone, which is oxygen condensed or in greater volume," or (p. 54) "cancer, when developed, is a distinctive microscopic bacteriologised germ," it also gives very sound practical advice. For example (p. 53), a good dentist "can only be found in a private house with a modest brass plate bearing his name," and that if you go elsewhere you are liable to have your teeth dealt with (p. 78) by "tram-car drivers, furniture dealers, German Jews, and every kind of person out of work"; or that if you are liable to have indigestion (p. 36) "do not eat such food as you find indigestible." It is a pity the book did not get the technical revision wanted to correct its absurdities, for there is no doubt a public which would find in it much useful advice towards the better ordering of their lives.

"HOSPITAL" OR "INFIRMARY": AMBIGUITY IN A BEQUEST.

Mr. Justice Russell has been called upon to decide whether a legacy of £5000 given by the testator, Mr. D. M. Currie, to "the Belfast Infirmary" should be paid to the Belfast guardians for their infirmary, the only institution actually called an infirmary at Belfast, or to the Royal Victoria Hospital, Belfast, a voluntary hospital, or to the Belfast Charitable Society, who maintain a home for old people, originally described as a "Poorhouse and Infirmary." The testator left legacies to 15 "hospitals" and three "infirmaries," all of which, except the Belfast Poor-law Infirmary, are charitable institutions supported by voluntary contributions. After hearing arguments from counsel representing the three institutions mentioned, Mr. Justice Russell upheld the claim of the Belfast guardians to the legacy. He had no difficulty in ruling out the Belfast Charitable Society; but while it is easy to agree with him there, it is difficult to do so where he refused to allow the claim of a voluntary hospital to be included with the other voluntary institutions. Attention was called to the prevalent use of the word "infirmary" for the principal local hospital in Scotland, where the testator had lived for a long time. It will be interesting to see what the views of the Court of Appeal may be should the claim be argued before them.

A MEDICAL CENTENARIAN.

Dr. Charles Henry Brooking, of Paignton, who celebrated his hundredth birthday on April 3rd, is a Guy's man who qualified as M.R.C.S. and L.S.A. in 1843, and M.D. St. Andrews in 1856. At one time he practised at Brixham, being medical officer of the Totnes Union, and later at Felstead in Essex, where he was district medical officer of the Dunmow Union. He then moved to New Southgate, until he retired from practice. We congratulate a medical man who has solved for himself the difficult problem of longevity.

POLISHED FLOORS IN INSTITUTIONS.

IT is stated that the Ministry of Health has had under consideration the number of patients in mental hospitals and epileptic colonies injured through falls, and that the Metropolitan Asylums Board has been asked to consider the matter, particularly in relation to the polishing of floors. Floors, no doubt, are easier to keep free from dust the more they are polished, and have a smarter appearance. It is possible, however, to carry too far the desire to promote the best sanitary conditions with the least labour and consequent expense. Hospitals may be wise to consider carefully how far an over-polished floor may render them liable for damages to medical staff and nurses, to patients, and to visitors, if any of these should be injured through a slipperiness which witnesses might describe as excessive and unnecessary.

THE NURSE'S UNIFORM.

AMONG certain resolutions placed before the South African Medical Congress in October, 1921, by the South African Trained Nurses Association was one deprecating the wearing of uniform, resembling that of a nurse, by untrained lady attendants in doctors' and dentists' consulting rooms. It is recognised that such attendants should wear a uniform of some kind, but objection is taken to the use of what is described as "the distinctive badge of our profession—viz., the cap—whether it be the 'Sister Dora' or the 'Military'—by those not entitled to wear it." It is also suggested that the titles of "sister" or "nurse" belong to the nursing profession, in the same way as that of "doctor" belongs to the qualified medical man, and that unqualified persons should not be so addressed. The resolutions were submitted to the South African Committee of the British Medical Association, and in the February number of the *Medical Journal of South Africa* Dr. A. Bloom, the hon. secretary of this body, declares its entire sympathy with the views expressed. The resolution is of more than local interest since it is not unknown for the secretaries of medical men in the Harley-street area to adopt the print frock and cap suggestive of a trained nurse.

THE "PREFUMA."

THIS lamp provides a neat method of perfuming and disinfecting the sick room. The apparatus is strong, and being constructed so that there is nothing that can be broken in its employment, it should be very durable. There is also no danger of explosion or accidents from a naked lamp, and a saving of trouble in the absence of wicks to be trimmed. The medium of heat is a mantle made of strong material, and should last for a long time if carefully used, while spare mantles can be obtained from the manufacturers. About half an ounce of scent will vaporise for 12 hours on half a pint of methylated spirit. The lamps are being retailed by Messrs. Allen and Hanburys, Ltd., 48, Wigmore-street, W.; Messrs. Perkins and Co., 99, Piccadilly, W.; and Messrs. Blake, Sandeford and Blake, 49, Dover-street, Piccadilly, W.; or they may be obtained direct from the Precision Engineering Company, Ltd., 142, 145, and 147, Rosebery-avenue, E.C. 1, price 15*s.* 6*d.* each, by members of the medical profession.

THE PROGRESS OF CREMATION.

FROM the annual report of the Cremation Society we learn that the total number of cremations carried out during last year in the 14 crematoriums in the country was 1922, as against 1796 in 1920. Golders Green comes first with 893, and Manchester is the second chief centre with 228, while Norwood had 162 and Woking 159; the total cremations in the London area were just over 1200. Outside London and Manchester the numbers of persons cremated at other towns were as follows: Glasgow 87, Birmingham 78, Liverpool 75, Hull 43, Leeds 31, Sheffield 29, and Bradford 24. Mr. Arthur E. Piggott, in a report entitled "Cremation and the Manchester Crematorium," puts forth a plea for cremation, with an historical sketch of cremation in Europe, its early pioneers and modern revival. He adds a list of persons whose remains have been cremated at the Manchester Crematorium, classified under various headings; 23 belonged to the medical profession and 14 to the legal. Since the establishment of the first English crematorium in Woking in 1885 (followed by Manchester in 1892) over 25,000 cremations have taken place in Great Britain.

THE HABITS OF MOSQUITOES IN ENGLAND.

THE abnormally dry season last year curtailed opportunity for observations and research on certain questions respecting the larvæ and eggs of *Anopheles plumbeus*. In order that the report to be presented to the Ministry of Health next July shall be as complete as possible, members of the South-Eastern Union of Scientific Societies are being asked to inform the Mosquito Investigation Committee: (1) Of records of any captures of adult *A. plumbeus* during and since last summer, with dates; (2) whether living larvæ were found in tree-holes at any time during that period, and to supply information as to the nature of the place where the eggs are laid by this and other species of mosquito.

A NEW METHOD OF FITTING SHOES.

A DEPARTURE in the method of fitting shoes has been devised by Messrs. Baber's, Ltd., 309, Oxford-street, W.1. Hitherto it has been considered sufficient, by the large class that to-day wears ready-made boots, that a foot of a certain length should be accommodated by a shoe of a corresponding size. Messrs. Baber suggest that the essential measurement for correct fitting should be between the two piers of the arch of the foot, the ball of the toe and the heel, and this is anatomically reasonable when one considers the variations which may exist in the arches of individual feet of the same length. When fitted by the "heel to ball" method the weight of the body is correctly distributed between the two piers of the arch, while the intervening arch is supported by the instep of the shoe. This would seem a very simple method of giving relief to those minor degrees of flat-foot which are perhaps more prevalent than is suspected. When the "heel to ball" measurement has been taken the style of shoe and the amount of space given to the toes depend upon the purchaser's own choice. On actual trial, shoes selected by this form of measurement have been found very comfortable, and an X ray demonstration showed that free movement was obtained for the toes.

A NURSERY HOTEL.

IT is unnecessary to remind practitioners that one of the most painful of the many anxieties besetting a parent faced with a personal or domestic crisis is what to do with the children. The solution of this problem would seem to be at hand. On the sunny side of one of the highest hills in the county of Oxfordshire is a house with big airy rooms and many windows, surrounded by two acres of garden, which has been adapted by two trained nurses as a hotel for little children. The special feature of the house is that it is not run on rigid institutional lines, but is planned to resemble a child's own home. Three or four cots are arranged in each bedroom and there is accommodation for about 20 children; an adequate domestic staff ensures that the nurses can devote their whole time to their young charges. A medical officer is attached to the hotel (which is on the telephone) and he pays a routine visit every fortnight. Children convalescent from infectious diseases are not eligible for admission; moreover, all children are isolated for a day or two when they first arrive as a precautionary measure. All children are weighed weekly. Parents are encouraged to visit the hotel at any time and arrangements can be made for them to stay in the neighbourhood. The fees are 3 guineas a week, and children are taken at any age from 1 day to 5 years old for any period of time from a week upwards. In cases of emergency children are taken at short notice and can be fetched from any part of England. Further particulars can be obtained from Miss B. Brooke Alder or Miss A. E. Windsor, at Hillside, Whitchurch, Oxon.

F. G. W. asks where he can find treatment recommended for myasthenia gravis.

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